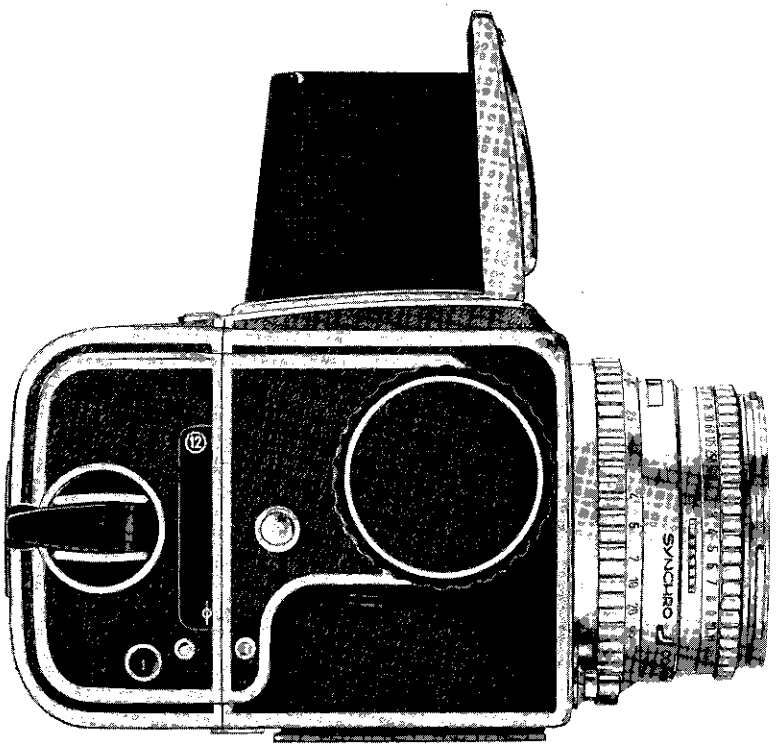
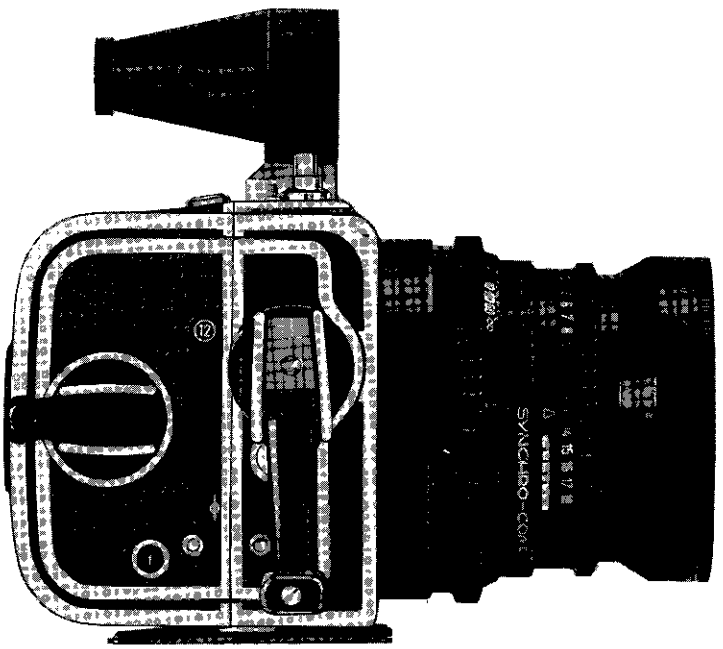
SPARE PARTS CATALOGUE
and
REPAIR MANUAL FOR HASSELBLAD 500C
500C/M, SUPER WIDE C





HASSELBLAD

SWEDEN

REPAIR MANUAL HASSELBLAD 500C, 500C/M and SWC

This Service Manual will cover all Hasselblad 500C models and the Super wide C in 4 main sections. The serial numbers and the various models are given on the index tabs. It is extremely important to use the right section for each repair. Repair instructions and a list of tools are given at the back of the manual.
Page numbers have been supplemented with the corresponding page number in the older service manual, since all the older Service Letters have page references. In (6A) 8, for example, (6A) designates the old pagination.
In the remarks column to the left (specifications page), the designation Ex. SVL 16/64 is sometimes found. This means that the item in question has been mentioned in some Service Letter, in this case Service Letter No. 16 1964.
To avoid errors in our processing of orders for spare parts, please use the exact designation given in the catalog. Example: 20967-1 may never be given as 20967/1, since this is a completely different item.
Sub-units surrounded by a dotted frame can be purchased assembled by indicating the part number referring to the frame.
Items marked Code no... must always be ordered from our Sales Department and may not be mixed in with ordinary orders for spare parts.

Das vorliegende Reparaturhandbuch gilt für sämtliche Hasselbladmodelle 500C sowie die SWC und ist in vier Hauptsektoren eingeteilt. Fabriknummern und die verschiedenen Ausführungen sind aus dem Griffregister ersichtlich und uns liegt daran, darauf aufmerksam zu machen, wie wichtig es ist, für die einzelnen Teile immer den richtigen Sektor zu verwenden! Ganz hinten im Buch finden Sie Platz für Repair Instructions (Reparaturanweisungen) sowie ein Verzeichnis über Werkzeuge.
Die Blattnummern sind mit den entsprechenden des vorhergehenden Handbuchs ergänzt, da alle älteren Service Letters (Servicemitteilungen) auf die entsprechendn Handbuchblätter im vorhergehenden Handbuch hinweisen. So ist bei (6A) 8 die in Klammern gegebene Nummer (6A) der Hinweis auf das bisherige Handbuchblatt.
In der Notizspalte links (Spezifikationsblatt) finden Sie hier und da die Bezeichnung (beispielsweise) SVL 16/64, die darauf hinweist, dass das betreffende Teil einmal in einem Service Letter (in diesem Fall No 16 1964) erwähnt gewesen ist.
Um Fehler bei der Ersatzteilbestellung zu vermeiden, bitten wir Sie, sich immer der im Katalog gegebenen Nummer zu bedienen. Bezeichnen Sie also bittenicht Teil 20967-1 als 20967/1 — diese Zifferngruppe bezeichnet nämlich einen ganz anderen Teil.
Teilzusammenstellungen, die von einem gepunkteten Rahmen umgeben sind, können bei Angabe der auf diesen Rahmen hinweisenden Detailnummer fertig montiert geliefert werden.
Details mit der Kennzeichnung Code No... müssen immer von unserer Verkaufsabteilung direkt bestellt und dürfen nicht mit normalen Ersatzteilbestellungen gemischt werden.

Ce manuel de réparation comprend l'ensemble des modèles Hasselblad 500C et Super Wide C répartis en quatre sections principales. Les numéros de fabrication et les différentes versions sont mentionnés sur les onglets de répertoire et nous tenons à vous rappeler que vous devez employer la section correcte concernant chaque objet respectif de réparation. En fin de catalogue, il se trouve des Instructions de Réparation ainsi qu'une liste d'outils.
Le numérotage des pages a été complété par les numéros de pages correspondants de l'ancien manuel de réparation, toutes les anciennes «Service Letters» renvoyant aux pages respectives. Exemple (6A) 8 où (6A) désigne l'ancien numérotage.
Dans la colonne de remarque, sur le côté gauche de la feuille de spécifications, on retrouve quelquefois une désignation. Exemple. SVL 16/64 qui indique que la pièce en question a été mentionnée dans une des «Service Letters», dans le cas présent la «Service Letter» No 16 1964.
Pour éviter toute erreur d'expédition de pièces détachées commandées, il faut employer la désignation exacte qui se retrouve dans le catalogue. Exemple 20967-1 ne doit jamais être désigné par 20967/1, cette disposition de chiffres désignant un tout autre objet.
Les classements partiels qui sont entourés d'un cadre pointillé peuvent être achetés montés en indiquant le numéro de pièce se référant au cadre.
Les pièces qui sont marquées du Code No... doivent toujours être commandées directement de notre service de vente et ne doivent pas être confondues avec les commandes de pièces détachées ordinaires.

Questo manuale di riparazioni, suddiviso in quattro sezioni, comprende tutti i modelli di Hasselblad 500C e la Super Wide C. I numeri di fabbricazione e le diverse varianti sono riportati sul margine esterno del registro e noi ci sentiamo in dovere di ricordare ancora una volta l'importanza di compulsare la giusta sezione corrispondente ad ogni apparecchio da riparare. Alla fine del manuale troviamo spazio per le «Repair Instructions» e per l'elenco degli attrezzi.
Poichè ogni «Service Letter» fa riferimento ad una determinata pagina, la numerazione delle pagine del manuale è ora completata col numero corrispondente del vecchio manuale. Così per esempio: (6A) 8, in cui (6A) indica la vecchia numerazione.
Nella colonna per le annotazioni si trova talvolta una sigla (per esempio SVL 16/64) che significa che il pezzo in oggetto è stato trattato in una precedente «Service Letter», nel caso dell'esempio riportato, nella «Service Letter» N. 16 1964.
Per evitare errori nella spedizione dei ricambi ordinati, si raccomanda di usare le denominazioni e le sigle riportate nel catalogo. Per esempio, il pezzo 20967-1 non deve mai essere indicato con la sigla 20967/1, poichè questa combinazione si riferisce ad un pezzo completamente diverso.
I gruppi parziali, indicati con una cornice punteggiata, possono essere acquistati già montati indicando il numero della rispettiva cornice.
I pezzi indicati con «Code N...» devono sempre essere ordinati direttamente al nostro reparto vendite e non possono essere compresi nelle normali ordinazioni di pezzi di ricambio.

Este manual de reparación todos los modelos Hasselblad 500C y Super Wide C, estando dividido en cuatro secciones principales. En las pestañas indicadoras se da el número de fabricación y las diferentes ejecuciones, y debemos poner de relieve la necesidad de emplear la sección adecuada para cada objeto a reparar. Al final del manual se ha dejado un espacio para Repair Instructions, así como una lista de herramientas.

La numeración de las hojas ha sido completada con el número de hoja correspondiente que tenían en el manual de reparación antiguo, ya que las Service Letters se refieren a las hojas respectivas. Por ejemplo (6A) 8, donde (6A) significa la numeración anterior.

En la columna de observaciones en el lado izquierdo, (hoja de especificaciones) se encuentra a veces una designación, por ejemplo, SVL 16/64, la cual indica que la pieza en cuestión ha sido mencionada en alguna Service Letter, en este caso la Service Letter No. 16 1964.

Para evitar los envios erróneos de las piezas de recambio pedidas, emplear exactamente la designación que se encuentra en el catálogo. Por ejemplo, 20967-1 no deberá designarse nunca con 20967/1 ya que esta disposición de cifras significa una pieza completamente diferente.

Los grupos parciales, los cuales están rodeados por un marco punteado, pueden ser comprados ya montados, indicando el número de pieza que se refiere al marco.

Las piezas que están marcadas con Code No... deberán ser pedidas siempre directamente a nuestro departamento de ventas, y no deberán ser mezcladas con los pedidos normales de piezas de recambio.

Denna reparationshandbok omfattar samtliga Hasselblad 500C modeller samt Super Wide C indelat i fyra huvudsektioner. Tillverkningsnumren och de olika utförandena är angivna på registerflikarna och vi är angelägna att påpeka nödvändigheten av att använda rätt sektion för respektive reparationsobjekt. Sist i katalogen finns utrymme för Repair Instructions samt för en förteckning över verktyg.

Bladens numrering har kompletterats med motsvarande bladnummer som de hade i den äldre reparationshandboken eftersom alla äldre Service Letter hänvisar till respektive blad. Ex. (6A) 8 där (6A) betecknar den äldre numreringen.

I anmärkningskolumnen på vänstersidan (specifikationsbladet) återfinns ibland en beteckning Ex. SVL 16/64 vilket talar om att detaljen ifråga varit omnämnd i något Service Letter, i detta fall i Service Letter No 16 1964.

För att undvika felexpedieringar av beställda reservdelar, använd exakt den beteckning som finns i katalogen. Ex. 20967-1 får aldrig betecknas 20967/1 då denna sifferuppställning avser en helt annan detalj.

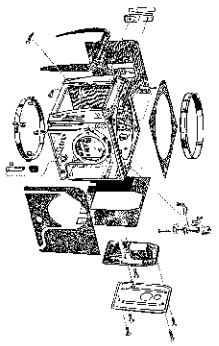
Delsammanställningar vilka omges av en punktstreckad ram kan köpas i monterat skick med angivande av detaljnumret som hänvisar till ramen.

Detaljer som är märkta med Code No... skall alltid beställas direkt från vår försäljningsavdelning och får inte blandas ihop med ordinarie reservdelsbeställningar.

VICTOR HASSELBLAD AKTIEBOLAG

Service Department

Göteborg, October 1971



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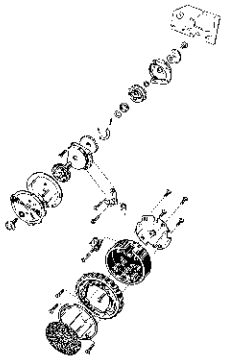

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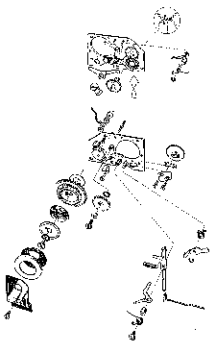

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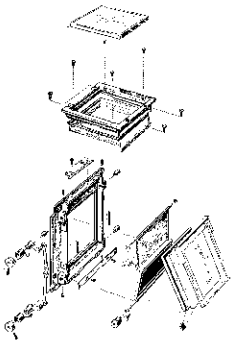

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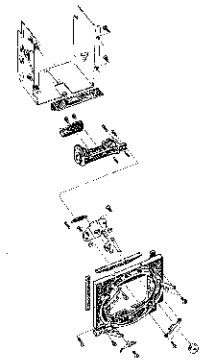

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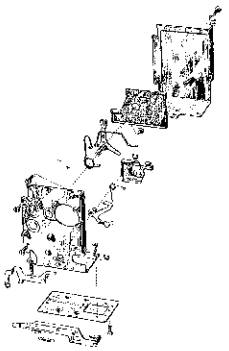

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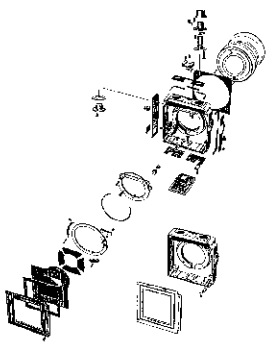

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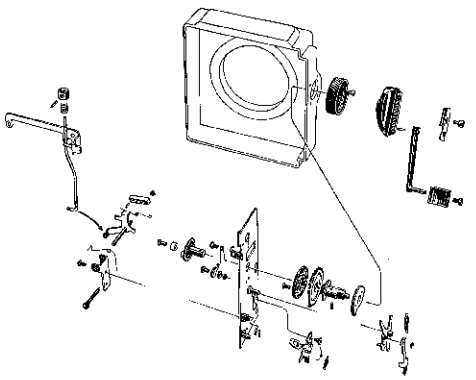

Page 22

500C

Pcs	Part No.	Description	Price (each)	Next assy.	Remark
1	13134	Release button		30323	
1	13135	Buffer		30323	
1	13137	Screw		30323	
1	13139	Lens release button		40160	
1	13145	Nylon ring		30323	
2	13148	Magazine support		20969	SVL No. 7/63
1	13154	Name plate		13161	
1	13161	Accessory shoe, complete		30323	
1	13184	Arm		30323	
1	13190	Name plate		30323	
1	13193	Cable attachment, complete		30323	
1	20905	Accessory shoe		13161	
1	20936	Quick release lever		30323	
1	20939	Ring		30323	
1	20948	Socket		30323	
1	20952	Ring		30323	
1	20969	Shell	×	30323	
1	20970	Leather		30323	
1	20971	Leather		30323	
1	20972	Leather		30323	
1	20973	Leather		30323	
1	20974	Leather		30323	
1	20975	Leather		30323	SVL No. 7/64
1	30315	Slide		40160	
1	30323	Shell, complete		40160	SVL No. 7/64
1	40153	Tripod socket		40160	
1	40160	Camera body, complete	×	—	
2	CN-2×3,7	Rivet		20969	
1	CS-1,2×3,5	Screw		30323	
4	FS-1,7×4	Screw		30323	
6	FS-2,3×8	Screw		40160	
2	KN-2×3	Rivet		20969	
1	RY-1,5	Clip		30323	
1	VF-90	Torsion spring		30323	SVL No. 19/69

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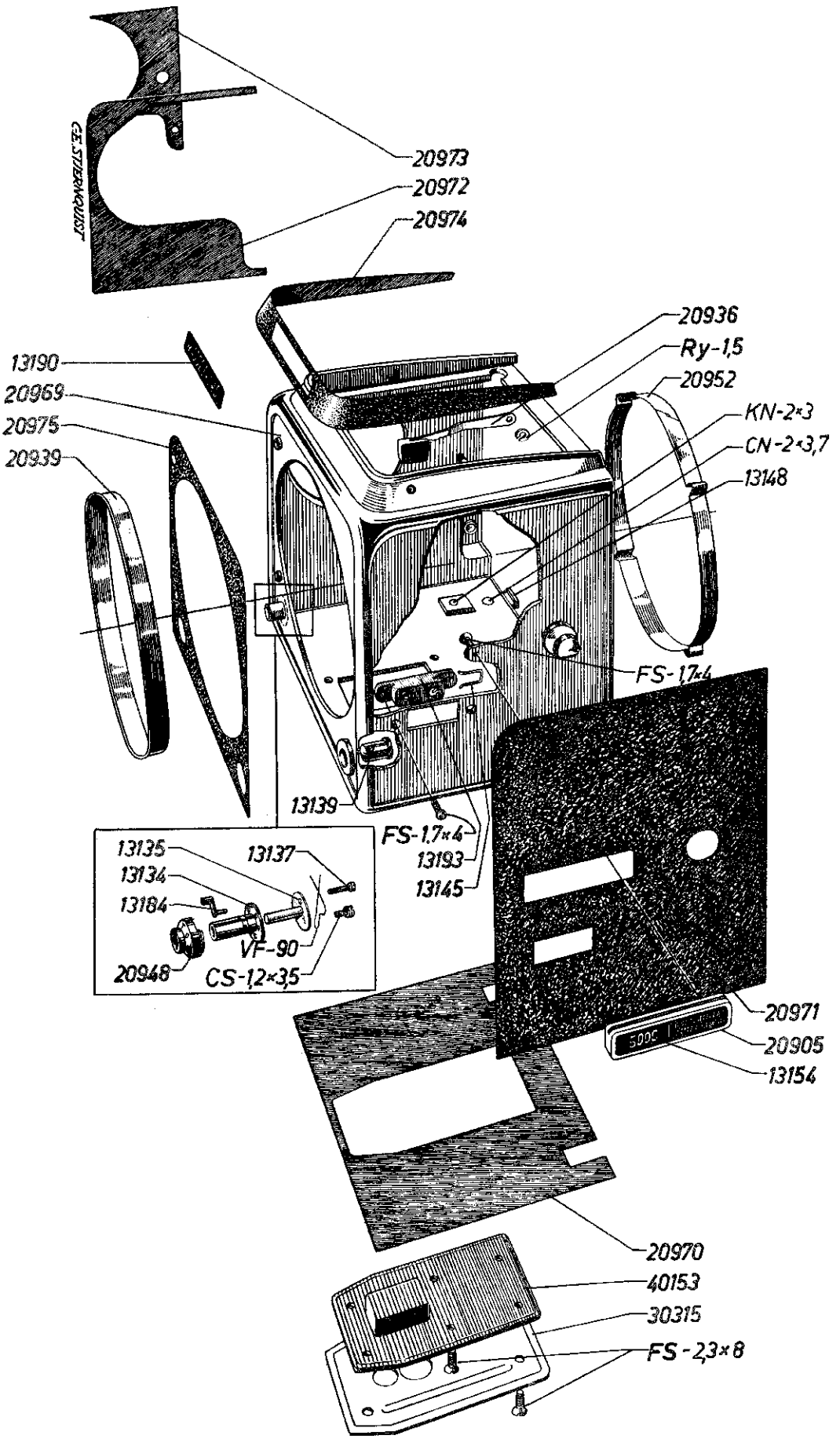
× = This part will not be supplied; A = assortment.

▲ = This part should be ordered from the Sales Department.

Serial number CU 30000 — CE 38591



500C

Pcs	Part No.	Description	Price (each)	Next assy.	Remark
1	13147	Shim		40160	SVL No. 2/60
1	13157	Gear housing, bottom		30324	
1	13163	Bayonet plate		40160	
1	13169	Gear		30324	
1	13170	Adjustable pawl		40160	
1	13172	Gear with spring stop		30324	SVL No. 4/63; 2/64
1	20908	Bayonet plate		30316	
1	20919	Hook		30324	
1	20920	Mirror cam		30324	
1	20924	Ratchet wheel		30324	
1	20990	Housing		30316	
1	20991	Rim		30316	
1	20992	Catch		30316	
1	20996	Leather		30316	
1	20999	Lid		30316	
1	30304	Gear housing, top		30324	
1	30316	Knob, complete	▲	40160	Order Code No. 44024
1	30324	Gear housing, complete		30326	
1	40160	Camera body, complete	×	—	
1	CP-1×7,8	Pin		30324	
1	CS-1,7×6	Screw		40160	
2	CS-1,7×7	Screw		40160	
1	D-4,5×7×A	Washer		30324	A=0,10; 0,20; 0,30 mm
1	D-8×8,5×2,2	Washer		30324	
1	SCS-1,7×3,2	Screw		30324	
1	SCS-3×5,5	Screw		40160	
8	SFS-2×6	Screw		30316	
1	TF-63	Pressure spring		30316	
1	VF-83	Torsion spring		30324	
1	VF-94	Torsion spring		13170	

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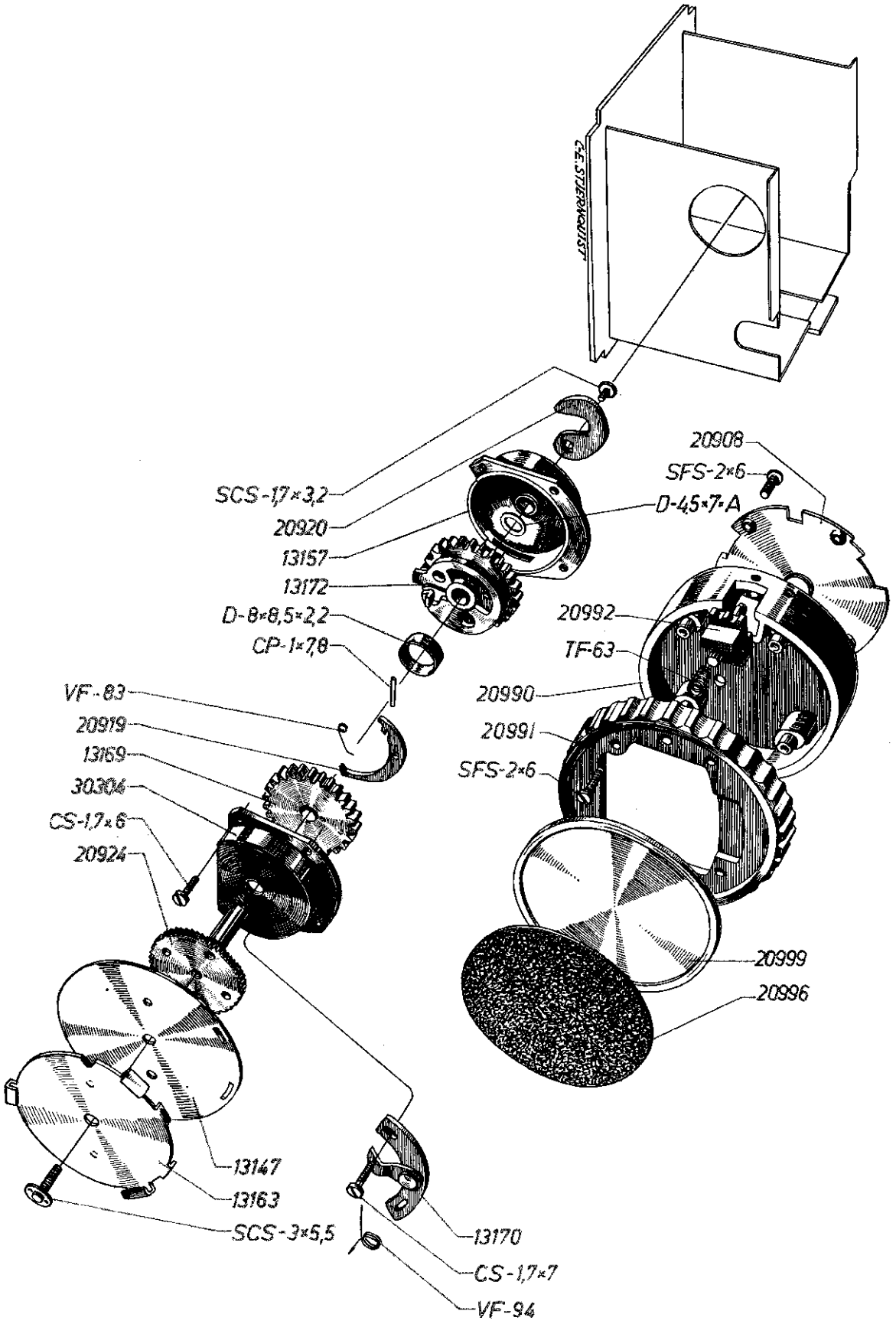

500C

Pcs	Part No.	Description	Price (each)	Next assy.	Remark
1	13112	Gear		40160	
1	13116	Nut		30327	
1	13117	Bushing	×	20967	
1	13150	Nylon insulator		20967	
1	13165	Arm		30327	
1	13166	Gear		30327	
1	13167	Gear		30327	
1	13171	Bearing bracket		30327	
1	13176	Cam		30327	SVL No. 4/60; 1/63
1	13179	Gear	×	20967	
1	13180	Coupling	×	20967	
1	13182	Gear with cam		30327	
1	13192	Arm		30327	
1	13194	Contact screw		20967	
1	13195	Cable		13193	
1	13198	Shim		30327	
1	20911	Stop		40160	
1	20912	Bar		30327	
1	~~20928~~ 20958	Coil-Spring		30327	SVL No. 4/60; 1/63; 11/63
1	20937	S-arm		30327	
1	20951	Contact spring		30327	
1	20953	Push rod		30327	
1	20961	Mechanism plate	×	20967	
1	20967	Mechanism plate, assy.		30327	SVL No. 14/64
1	30327	Mechanism plate, complete	×	40160	
1	40160	Camera body, complete	×	—	
1	AT-330	Pin	×	20967	
1	AT-344	Pin	×	20967	
1	B6MS-1,7	Nut		40160	
1	CS-1,7×3,5	Screw		40160	
2	CS-1,7×4	Screw		30327	
1	D-2×5,5×0,3	Washer		40160	
1	D-4,5×7×A	Washer		40160	A=0,10; 0,20; 0,30 mm
1	D-7,1×15×0,4	Washer		30327	
1	DF-93	Draw spring		30327	
1	FS-1,7×4	Screw		40160	
1	NAV-180	Bushing		30327	
1	RY-1,2	Clip		30327	
1	SCS-1,7×2,5	Screw		30327	
1	SCS-1,7×3,5	Screw		40160	
1	SCS-2×4	Screw		40160	
1	SCS-2×5	Screw		30327	
1	VF-84	Torsion spring		30327	
1	VF-85	Torsion spring		30327	
1	VF-89	Torsion spring		30327	

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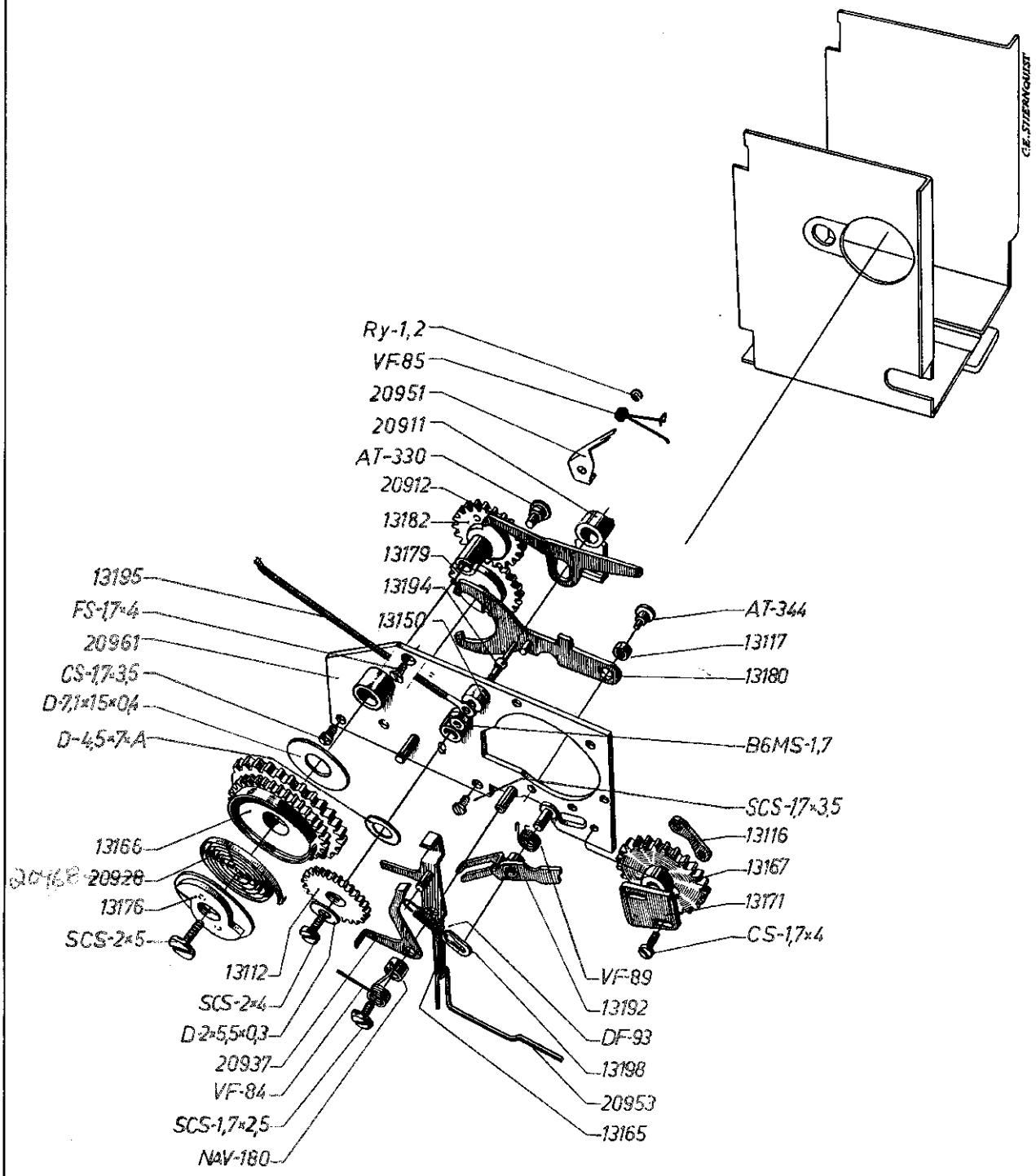


Front bayonet plate (30376-2) (Fig. 15)

1. Screw FS-1.7x7 (823019).

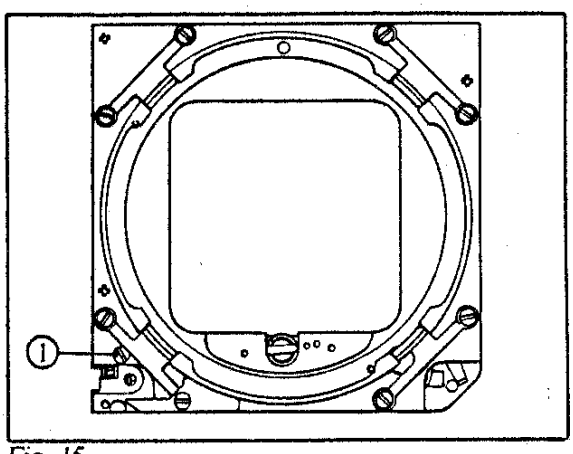


Fig. 15

Lens locking mechanism (Fig. 16)

2. Screw CS-1.7x4.5 (820018).
3. Front gear is released from the bayonet plate (30383).
4. Screws CS-1.7x3 (820014) (Qty. 2).
5. Governor (30386).
6. Screws FS-1.7x4 (823015) (Qty. 2).
7. Spring DF-94 (814754).
8. Mounting plate (13904).
9. Spacer D-1.8x3x1.10 (810409) (Qty. 2).
10. Lens catch lever (13164).

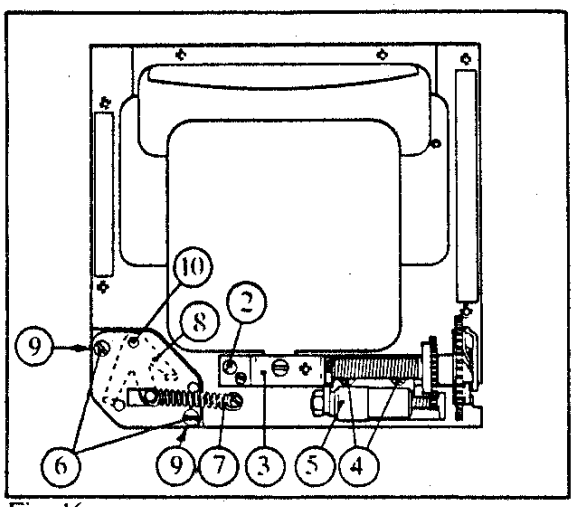


Fig. 16

Reassembly

Front Plate Assembly

Fitting the front bayonet plate (30376-2)

Fit the four bayonet tongues into position, three with part number 13118 and one with part number 13146. Secure with eight screws CS-1,7x3,5 (820015).

> Note:
> The positioning of the bayonet tongue (13146) and the release button return spring (21096) are shown in Fig. 17.

Behind the front plate glue the sponge seals into place with 'PLIOBOND'. Note the positioning of the upper seal (22422) with the thicker end to the left when viewed from the rear (Fig. 18).

Fit the lens catch lever (13164) by laying it on the plate as shown in the diagram and fit the mounting plate (13904). Position both the spacers D-1,8x3x1,10 (810409) and secure with two screws FS-1,7x4 (823015). Check the lens catch lever for ease of operation. Install spring DF-94 (814754).

Front gear (30383)

Check the front gear ease of operation. The long shaft from the drive gear wheel to the bevel gear wheel sometimes has too little play which can give rise to tightness. A light blow with a plastic faced hammer on the cog wheel end of the shaft will generally overcome the problem. Fit the governor (30386) using two screws CS-1,7x3 (820014), ensure the gears mesh and then secure the screws.

Fit the front gear on the front bayonet plate using one screw F-1,7x7 in the front and one CS-1,7x4,5 (820018) from the rear. Check the freedom of operation. Tighten the screws.

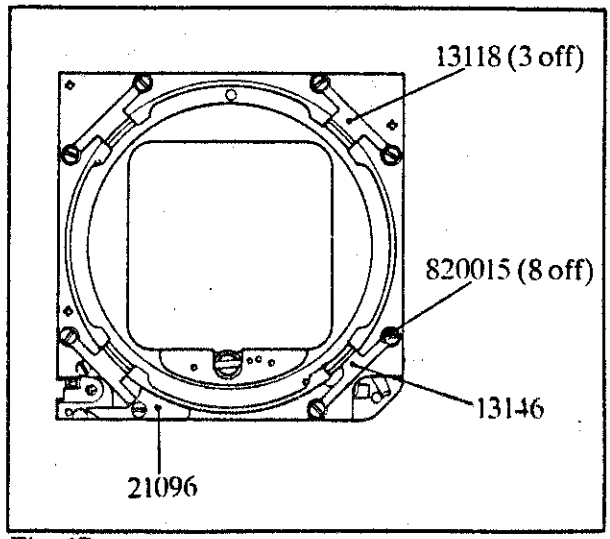


Fig. 17

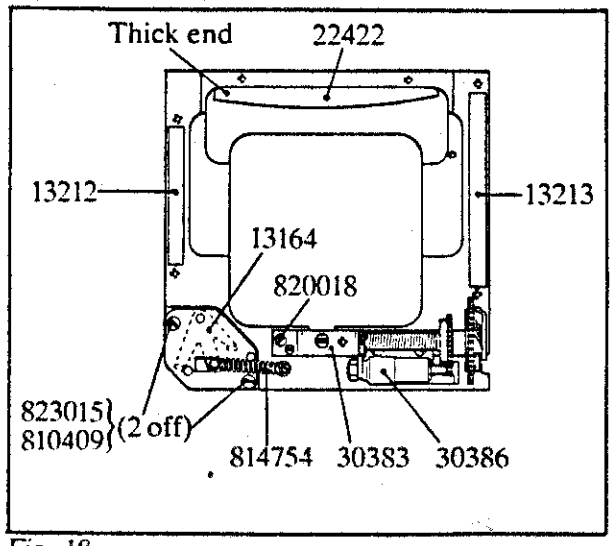


Fig. 18

Centring the front gear key

Engage tool V-2075 into the lens bayonet arrangement and connect tool V-2219. Turn the key using V-2219 to a vertical position. Check that the free play is even in both directions. If there is more resistance at one direction than the other move the front gear to obtain a balance. Carry out the same procedure with the key in a horizontal position. Also check at the 180° points in both vertical and horizontal position (Fig. 19).

When the key is centralised tighten both screws in the front gear, and lock them, using 'Lastina' safety lacquer.

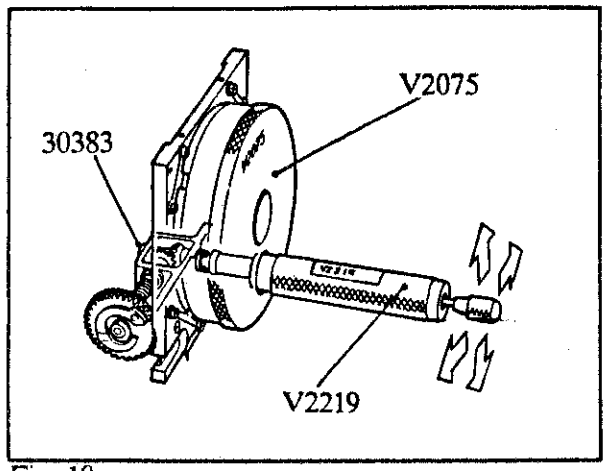


Fig. 19

The holes for the locating pins CP-1,2x6,1 (812202) are bored at 1.15 mm. Use tool V-2211 for driving in the pins. Drive the pins in until the face of the tool touches the front bayonet plate (Fig. 19a). When a new front plate is installed the hole must be drilled using tool V-2075, which is equipped with two drill bushes.

Remove the swarf and lubricate the bevel gears with grease. Force grease using a syringe into the three small holes and lubricate the weight of the centrifugal brake. **Do not over lubricate.**

The front bayonet plate is now ready to fit to the camera body.

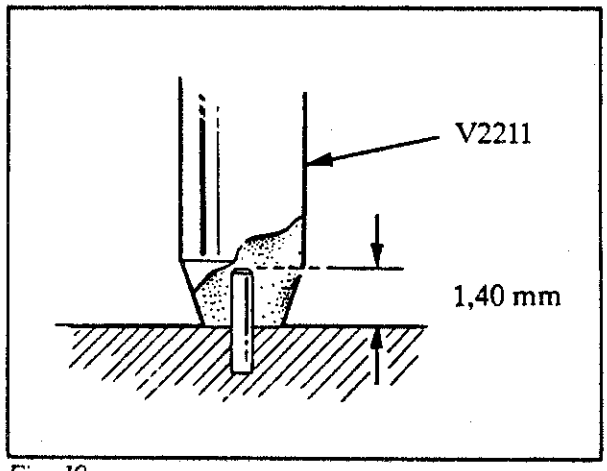


Fig. 19a

Assembling the mechanism plate (21125-1)

Ensure the auxiliary shutter release connecting rod coupling No. 1 and the control gear wheel No. 2 move freely (i.e. with no friction). Lubricate lightly with oil. Lubricate the gear wheel's cam with grease.

Fit the coil spring (20968-1) into the spring mounting on gear wheel (13359-1) as shown in the diagram. Use a new spring, contained in its plastic ring. Lubricate with grease (Fig. 20).

Turn the control gear wheel No. 2 clockwise to the stop and fit gear wheel (13182).

Note:
The position of the gear wheel engagement (see Fig. 21). Hold the gear wheels in position and on the reverse side of the mechanism plate, position washers D-7,1x15x0,4 (810932) and lubricate the hub with grease. Fit gear wheel (13359-1) together with the coil spring (Fig. 21).

Assemble the spring mounting cover (14280) and temporarily secure with screw AS-118 (822605).

Tension the spring by rotating the gear wheel (13359-1) anticlockwise as shown in the diagram. Test the operation by pushing the shutter release connecting rod up and down several times (tension the spring after each operation). The gear wheels should revolve freely (Fig. 22).

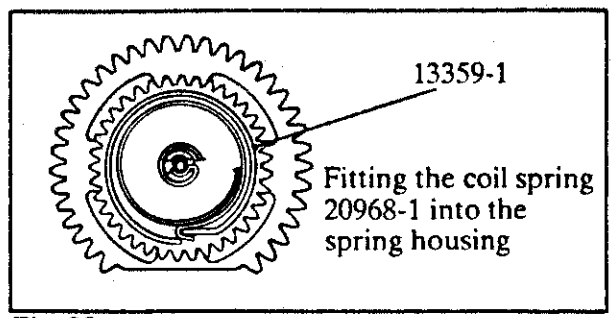


Fig. 20

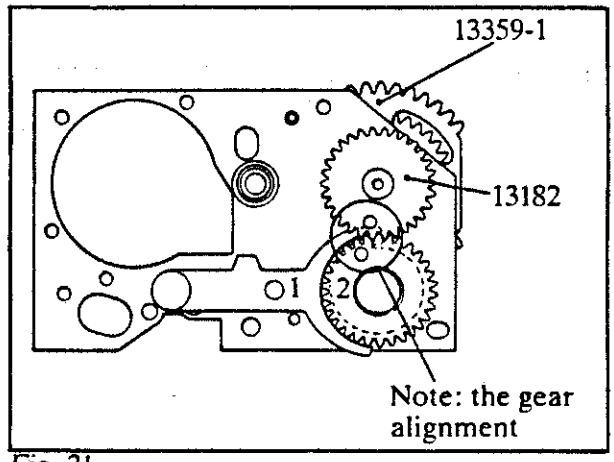


Fig. 21

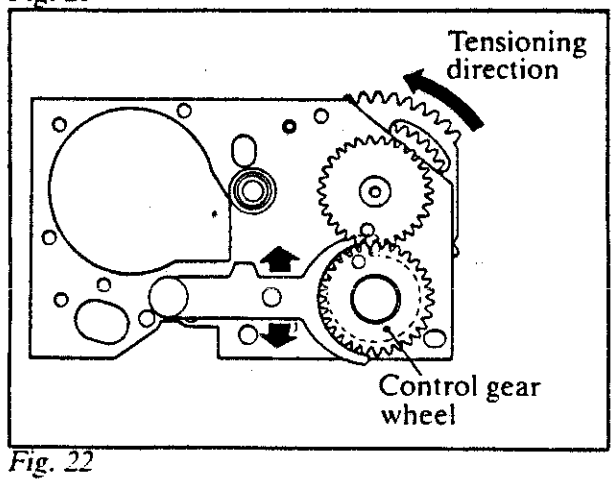


Fig. 22

Insert the lower gear housing (13157) to mechanism plate (Fig. 23).

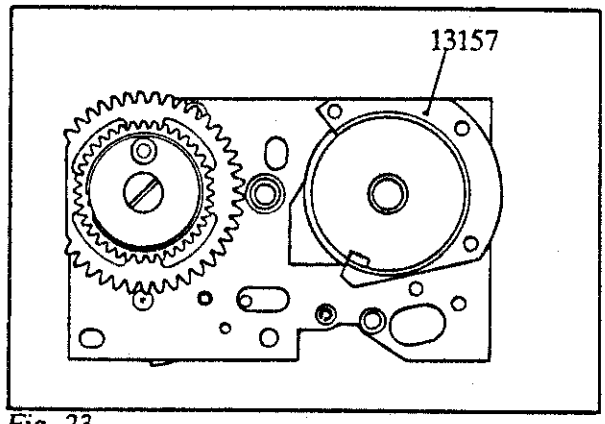


Fig. 23

On the reverse side of the mechanism plate fit the shutter ar (20912), spring VF-85 (816802) and circlip 1,2 (817112) (Fig. 24).

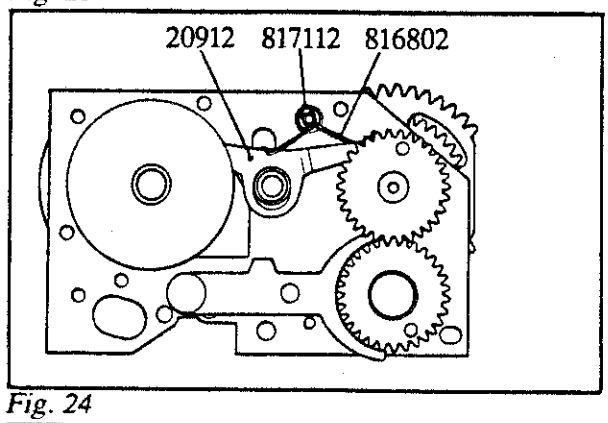


Fig. 24

Fit gear wheel (13509). Rotate the gear housing clockwise towards the control arm, this allows the fitting of the cog wheel (13509) to be easily achieved (Fig. 25).

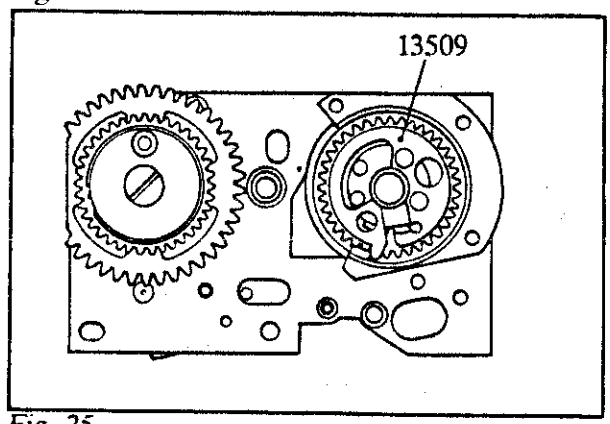


Fig. 25

Lubricate and fit gear wheel (20924) into the upper gear housing (30304) (Fig. 26).

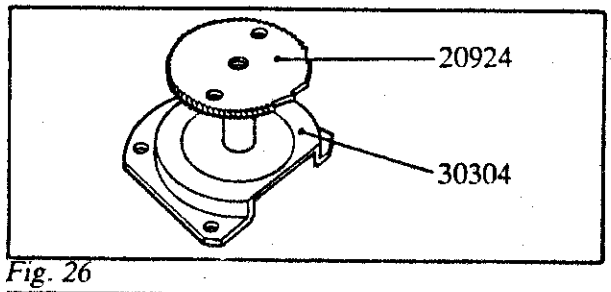


Fig. 26

Fit the gear wheel (13169), ensure that the two pins are located as shown in Fig. 27. Insert the locking pin CP-1x7,8 into the shaft (812106) (Fig. 27).

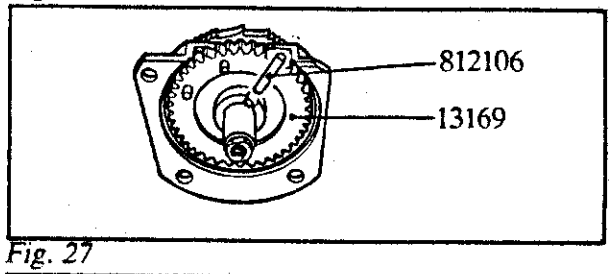


Fig. 27

Fit the locking collar D-8x8,5x2 (810938). Fit the activating lever (20919), lubricate carefully with oil. Fit spring VF-83 (816504). Fit the washer D-4,5x7x0,10. To adjust the play in the gear train, shims are available in different thicknesses 0.10; 0.20; 0.30 mm corresponding to Nos. 810826; 810827; 810828 (Fig. 28).

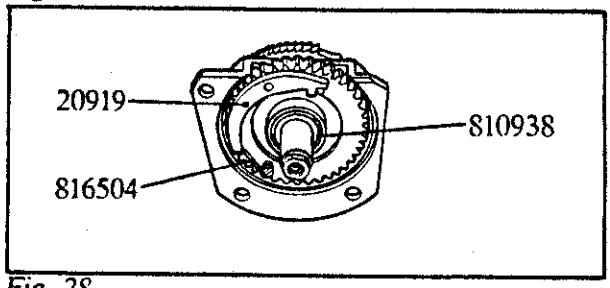


Fig. 28

Fit the upper and lower gear housing and rotate the gear wheel (20924) clockwise to the stop (Fig. 29).

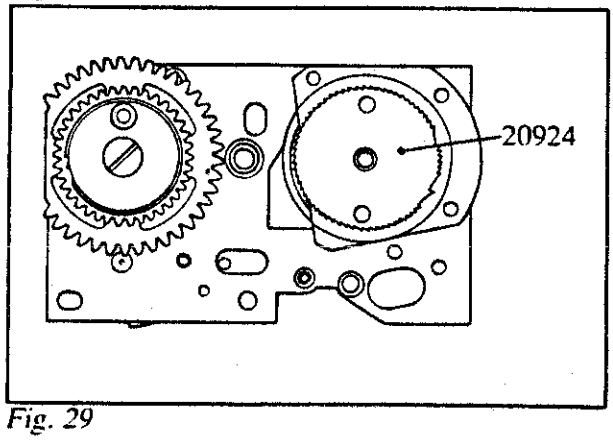


Fig. 29

On the reverse side fit the mirror cam (22355) secured with the screw SCS-1,7x3,2 (821033) (Fig. 30).

Note:
The position of the mirror cam (22355) relative to cog wheel (20924).

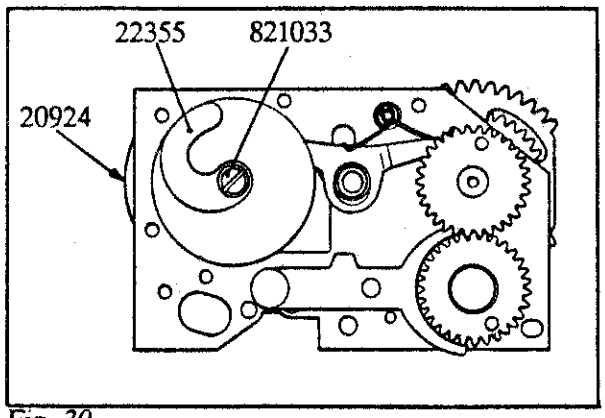


Fig. 30

Lubricate with grease and fit intermediate cog wheel (13167), bearing bracket (13171) and mounting plate (13116) and two screws CS-1,7x4 (820016) (Fig. 31).

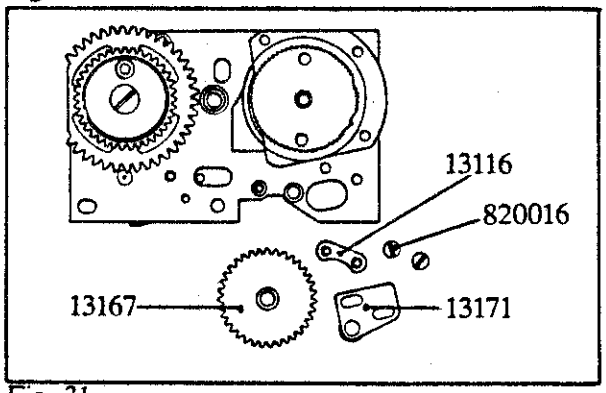


Fig. 31

Position the bearing bracket (13171) and mesh the gear teeth, secure the two mounting screws (Fig. 32).

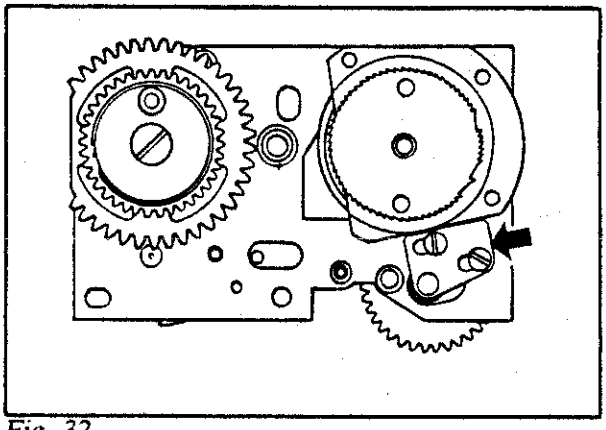


Fig. 32

Position the auxiliary shutter stop (20911) in place (Fig. 33).

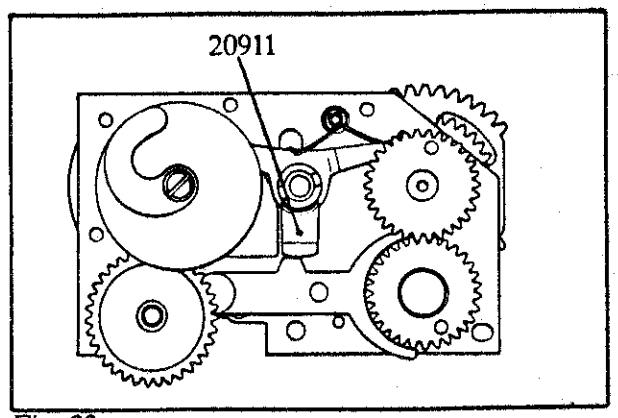


Fig. 33

Fitting the mechanism plate to the right hand wall

Check that the right hand wall (21095) is at right angles and that all hubs and pins are correctly secured (Fig. 34).

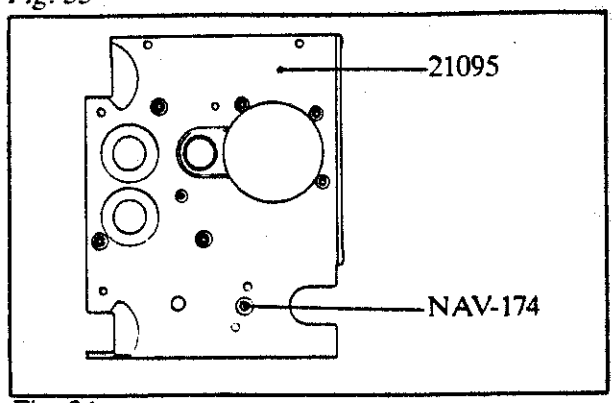


Fig. 34

Lubricate NAV 174 (840608) and fit signal arm (13220). Fit circlip 1.9 (817119) and connect spring DF-90 (814603 (Fig. 35).

Note:
When fitting the spring connect the large loop to AT-333 (836601) and the other end to the signal arm.

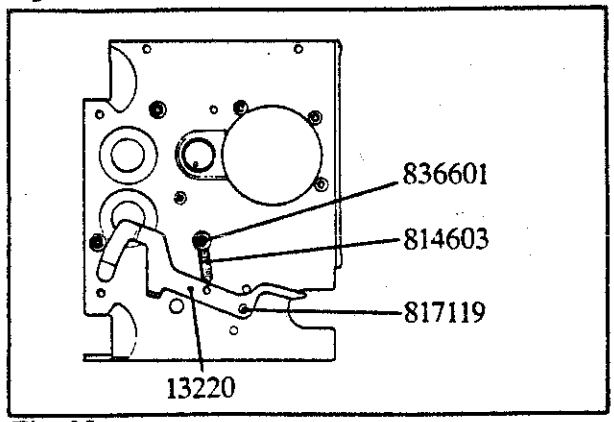


Fig. 35

On the mechanism plate fit the two upper and lower connecting rods to the pins on gear wheels (13100) for the upper shutter and (13101) for the lower shutter (Fig. 36).

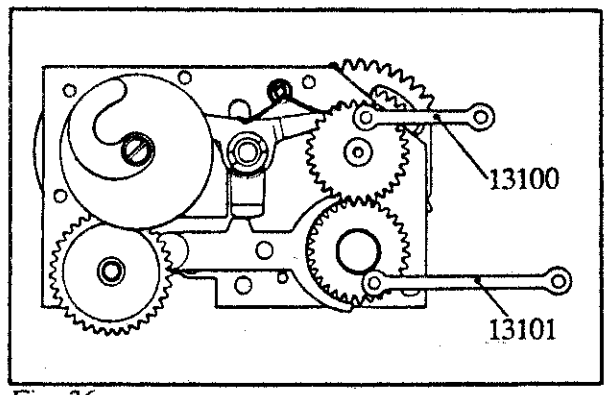


Fig. 36

Secure the mechanism plate onto the right hand wall simultaneously connect spring VF-94 to the back of pawl (13170), lubricate the pawl with oil and ensure that it is free to operate. Fit stop (13432) as shown and secure using six screws (Fig. 37).

Note:
The longer connecting rod (13101) which operates the lower shutter is fitted below the lower-left mounting post behind the signal arm.

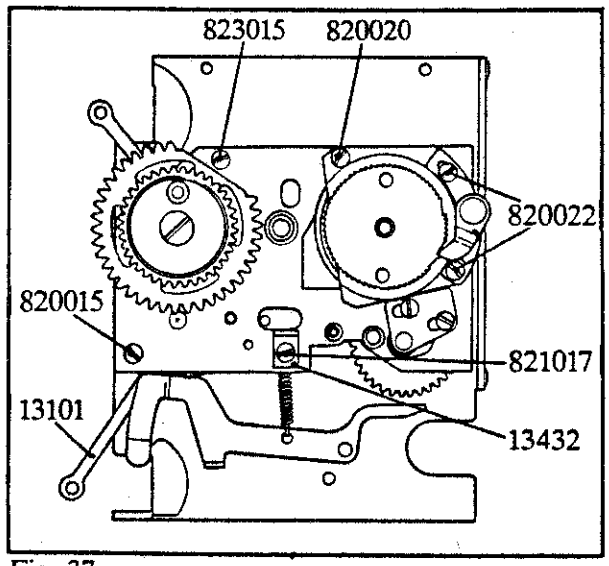


Fig. 37

Connect the shutter release arm (13357) to the push rod (22369) and secure in position AT-345 (836514) as shown in Fig. 38. Fit the S-arm (21167), NAV-180 (840701), spring VF-108 (816914) and secure into position using screw SCS-1,7x2,5 (821032). Check for ease of operation. Connect spring VF-108 to (21167) and position the straight end to the pin on the shutter release connecting rod reverse side. Connect spring DF-99 between ST-115 and the pin on the release arm (13357). Check for ease of operation.

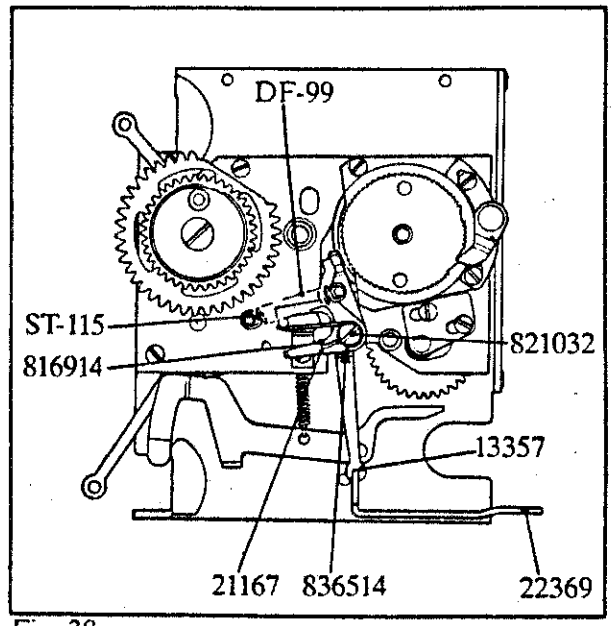


Fig. 38

Fit film winding knob block lever (13355) and spring VF-89 to hub AT-348 as shown in Fig. 39. Secure with circlip 1,9 (817119). Insert shim D-4.5x7xA onto hub (13108). This shim can be in several thicknesses for adjustment as follows: 0.10; 0.15; 0.20; 0.30 mm with corresponding part numbers 810826, 810831, 810827, 810828.

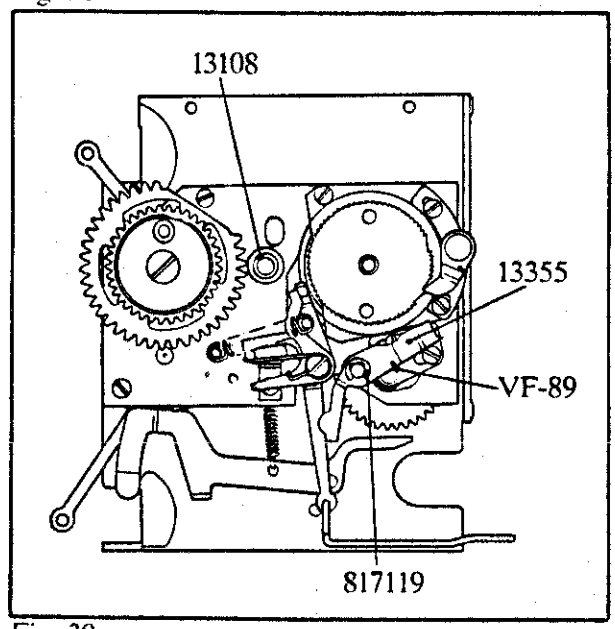


Fig. 39

500C

Pcs	Part No.	Description	Price (each)	Next assy.	Remark
1	12360 0,8 mm	Fresnellens		50109	SVL No. 10/61
1	13100	Connecting rod, upper		50109	
1	13101	Connecting rod, lower		50109	
2	13110	Driving disc		GR-30322	
1	13125	Light trap		GR-30322	
1	13143	Magazine hook		50109	
2	13185	Lever		GR-30322	
1	13186	Top flap	×	GR-30322	SVL No. 20/67
1	13187	Bottom flap	×	GR-30322	SVL No. 20/67
1	20854	Mirror		20958	
1	20901	Mirror protection		20958	
1	20904	Ground glass		50109	
1	20955	Frame, complete		50109	SVL No. 1/62
1	20957	Mirror frame		20958	
1	20958	Mirror, complete		GR-30322	
1	20976	Plate spring		50109	A=0,15; 0,25 mm
1	30306	Ground glass holder		50109	
1	GR-30322	Rear plate, complete		50109	State serial No.
1	GR-40150	Rear plate		GR-30322	State serial No.
1	40160	Camera body, complete	×	—	
1	50109	Camera body, assy.	×	40160	
4	CS-1,2×3	Screw		50109	SVL No. 2/63; 2/67
2	D-2×2,8×A	Washer		GR-30322	A=0,10; 0,20 mm
2	FS-1,7×4	Screw		50109	
2	NAV-171	Bushing		GR-30322	
2	NAV-172	Bushing	×	GR-30322	SVL No. 4/66
2	S-1×6	Pin		GR-30322	
2	SCS-1,2×3	Screw		GR-30322	
2	SCS-1,7×3,5	Screw		50109	
4	SKSS-1,7×3	Screw		GR-30322	
1	VF-87	Torsion spring		GR-30322	
1	VF-88	Torsion spring		GR-30322	

Printed in Sweden 8.71

× = This part will not be supplied; A = assortment

▲ = This part should be ordered from the Sales Department.

On the reverse side of the right hand wall fit the mirror actuating lever (13362) and spring VF-86 (816902) (non-tensioned) and the lens lock (13280). Lubricate with grease. Connect the spring's short shackle over the mirror actuating lever and the long end is tensioned by placing it over pin AT-195 (835206). The lens lock pin (13280) fits into a pin on the mirror actuating lever. Ensure that the spring does not become trapped between the securing screw SCS-2x4 and washer D-2x5,5x0,30 from the mechanism plate (Fig. 40).

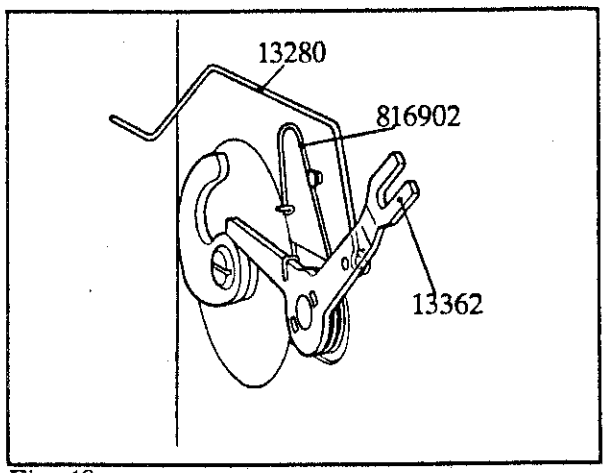


Fig. 40

Fit the mirror catch 13356-1 onto peg ST-121 (838205). Lubricate with grease. Connect the spring VF-93 (816706) with the long shackle connected to ST-96 and the short one under the mirror catch (Fig. 41).

Note: Spring VF-93 should not be tensioned until the cover is ready to be fitted. Fit the spring as shown then move the lever and fit the cover.

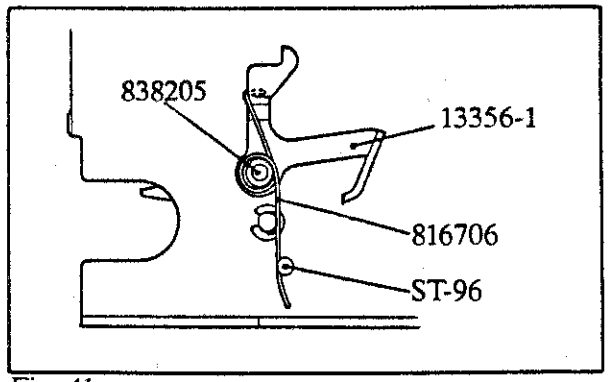


Fig. 41

Hold the blocking lever and spring and install the cover 21142, secure with circlip 1,5 (817115). Check that the mirror catch moves freely (Fig. 42).

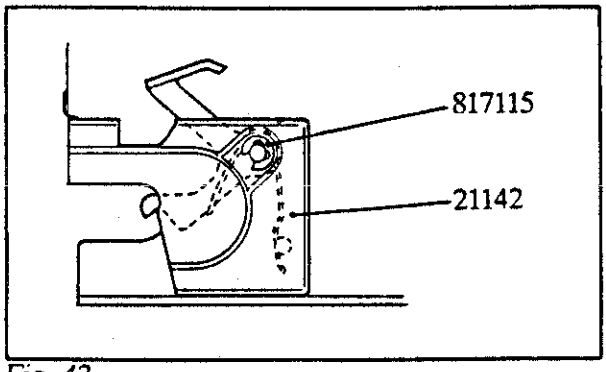


Fig. 42

Connect the right and left hand walls to the bottom plate 30686, secure with six screws CS-1, 7 x 3 (820014). Apply safety lacquer to screw-threads (Fig. 43).

Glue on foam plastic strip 22424.

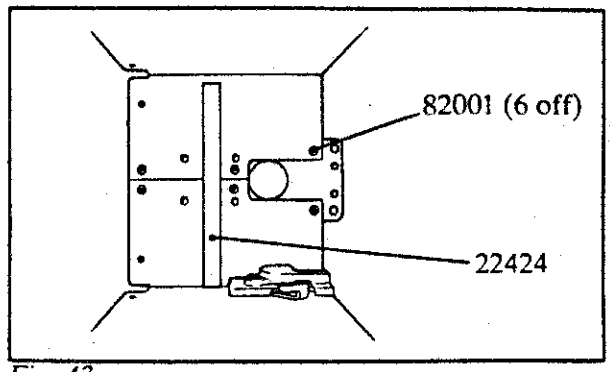


Fig. 43

Rear Plate *(30519)*

Fitting rear plate 30519

Lubricate the shutter driving arm's shaft hub and the mirror's moving peg with grease. Connect the arm and the connecting rods and fix the back plate into the chassis. Ensure that the mirror actuating lever's grips the pin on the mirror frame and that the mirror is positioned correctly on the upper side of mirror rest. Check that the mirror and shutter driving arms move easily (Fig. 44).

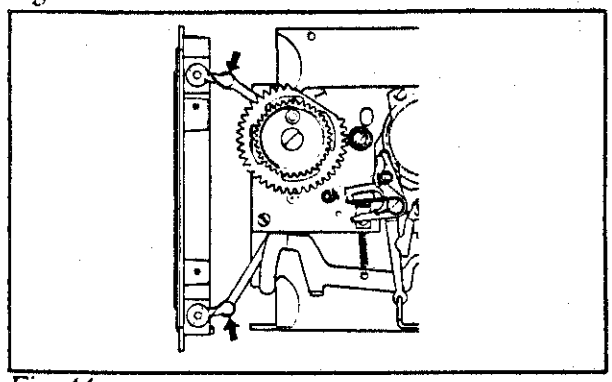


Fig. 44

The rear plate is secured to the camera using six screws CS-1, 7 x 3,5 (820015). Fit the screen frame 21611 in position and fix with four screws CS-1, 7 x 3,5 (820015) two through each of the right and left walls, together with two SCS-1, 7 x 3,5 (821017) from the upper side (Fig. 45).

Secure the magazine hook 22423 with two screws 823640.

Note: That the screws are FS-2 x 4mm. Seal with LOCTITE and fasten securely.

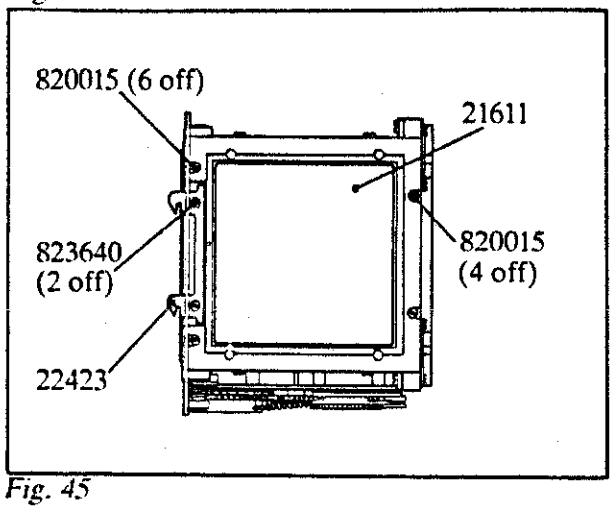


Fig. 45

Seal between the rear plate and both side walls using 'PERMATEX' in the area shown in Fig. 46 to ensure a light tight seal.

Check that the mirror and the auxiliary shutters are centred and move freely. Adjust if necessary by moving NAV-171 (Qty. 4) in the side hinges of the auxiliary shutter and mirror bracket.

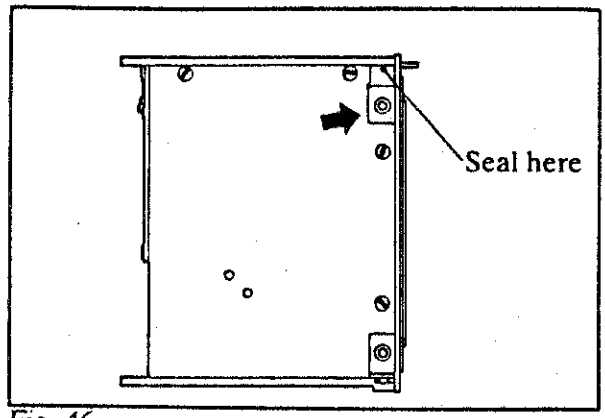


Fig. 46

Front Plate *(30376-2)*

Fitting front bayonet plate (30376-2) **to camera body**

Tension the drive spring by turning the outer gear wheel clockwise four turns. The front key will be positioned at the red index dot and after the drive spring has been tensioned insert a locking pin through the inner cog wheel and the bracket to prevent the spring unwinding (Fig. 47).

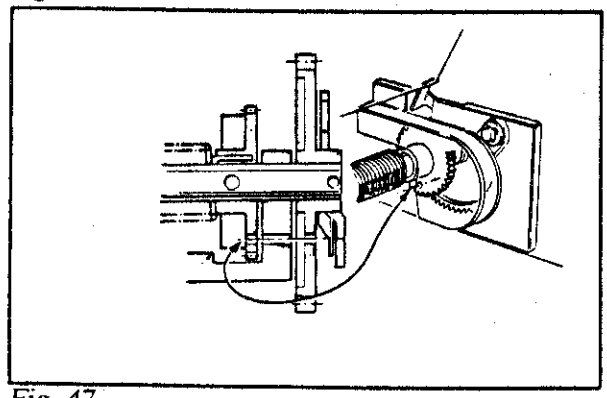


Fig. 47

Turn gear wheel (13167) on the camera body anticlockwise to the stop and install the front bayonet plate. Ensure that the push rod (22369) passes through the hole in the front plate and butts onto the back of the shutter release button. Ensure that the lens lock pin (13280) passes through the appropriate hole when the front plate is fitted and secured (Fig. 48).

Secure the eight screws in the front bayonet plate fitting using screws: Qty. 2 FS-2x5,5 (823655) in the bottom, Qty. 2 SCS-1,7x3,5 (821017) from above and Qty. 4 CS-1,7x3,5 (820015) through the right and lefthand walls. Tighten the screws and lock with safety lacquer.

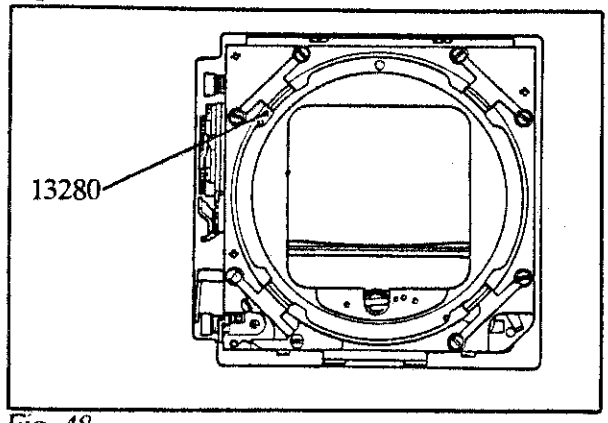


Fig. 48

Fit the lens lock pin (13280) in the hole through the front bayonet plate (Fig. 49).

Remove the temporary locking pin holding the drive spring.

Remove screw SCS-2x4 and fit gear wheel (13112), before meshing, align the straight part of gear (13359-1) with the rear plate and insert the adjustable pawl (13170) into the middle cut out in gear (20924). Hold the mirror actuating lever from the inside and tighten screw SCS-2x4.

Fit pressure release bar (30375) by connecting spring DF-97 (814512) onto the push rod (22369). Position the release bar into the orifice to abutt with the shutter release button and to a cutout in the rear plate. Press it backwards until it snaps into position (Fig. 50).

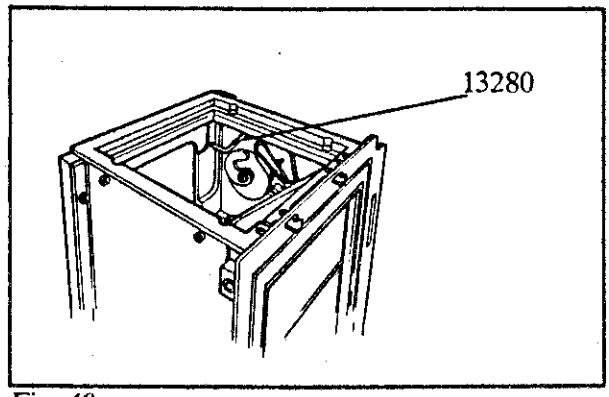


Fig. 49

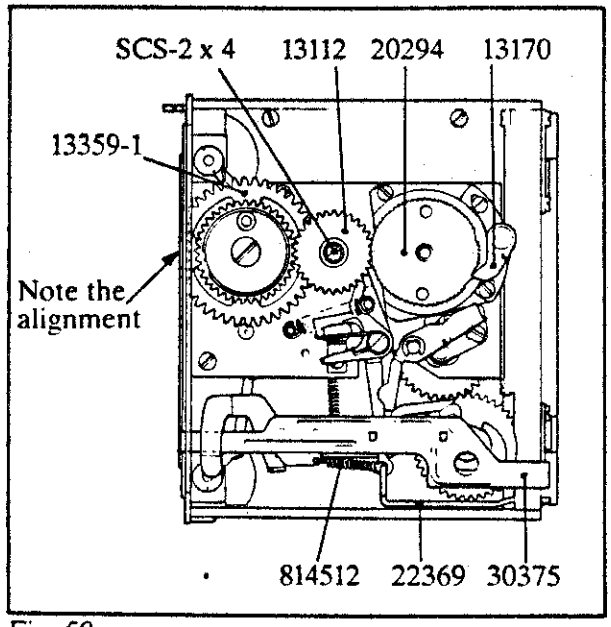


Fig. 50

500 C/M Adjustment

Install the winding knob V-2206 and tension the auxiliary shutter spring (20968-1) by releasing the pawl (20919) (see Fig. 51). Turn the knob clockwise and tension the spring two turns at this time. Test the camera's function.

If the spring is too tight the pressure can be reduced by operation of the shutter mechanism and then pressing the signal flag down.

> Note:
> Always check that the auxiliary shutter is closed before turning the winding knob, otherwise there is a risk that the top flap of the auxiliary shutter will be damaged when the mirror moves downwards.

Temporarily adjust the key position by loosening the screws and moving the fixed plate (13171) (see Fig. 52) forward until the key position is aligned to the red index dot on the front plate. If the adjustment is insufficient unmesh the cogs between the front gear wheel and the gear wheel (13167). Hold the gear by hand during this operation so that the drive spring tension is not lost.

Loosen the front plate just sufficiently to ensure that the mesh of the teeth is removed and turn the gear one tooth at a time.

Retighten the screws.

The camera body should now function normally, i.e. shutter release and winding on can be carried out in the normal manner.

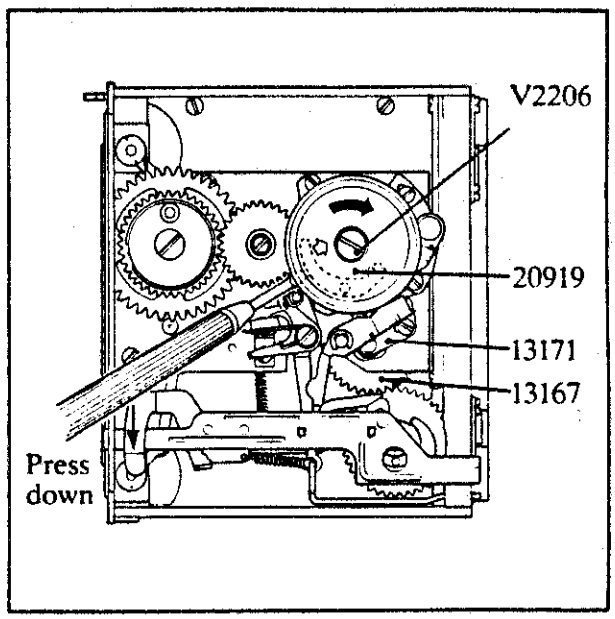


Fig. 51

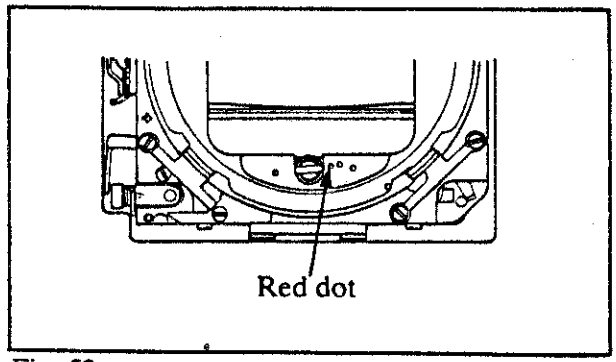


Fig. 52

The camera body's focal length is inspected and adjusted using tool V-2229. The focal length is 71.40 mm ± 0.03 mm.

Zero the dial indicator by using a test measurement "A" which corresponds to a camera length plus the thickness of the test piece "B". Insert test piece "B" into the front bayonet of the camera (Fig. 53).

Connect the camera to the alignment tool. Ensure that the rear plate is flat. In the event of any uneveness loosen the screws which hold the rear plate and push it in the desired direction. Place the rule with the measuring gauge on the alignment tool and run the measuring sensor round the periphery of the test-plate and check that the length is within the tolerance. Adjustment is carried out by moving the front plate forward or back. If the focal length is too long gently strike the plate with a plastic faced hammer (Fig. 54) and if the focal length is too short the adjustment is carried out by gently striking the fixed angle piece on the front plate with a fibre rod and a hammer. Tighten up all screws and lock them. This length adjustment is preliminary (Fig. 55). Final adjustment is carried out when the camera body is mounted in the camera shell.

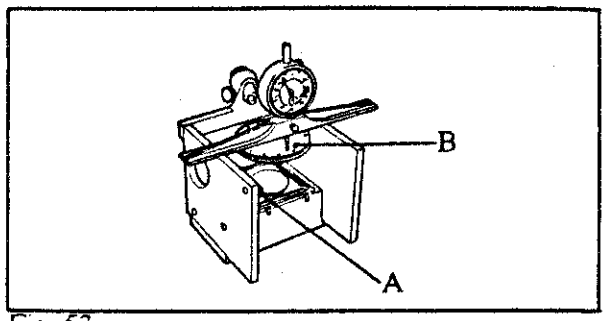


Fig. 53

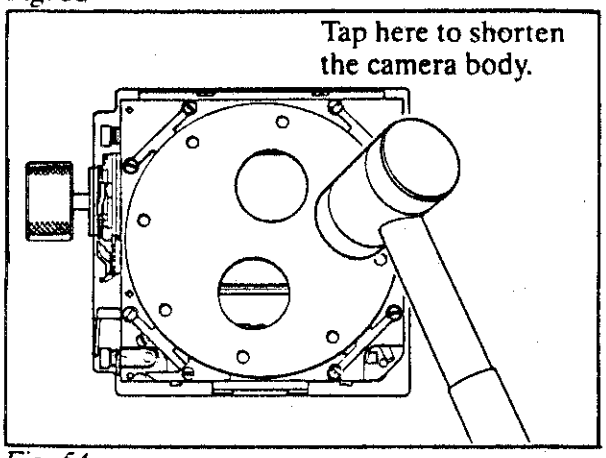


Fig. 54

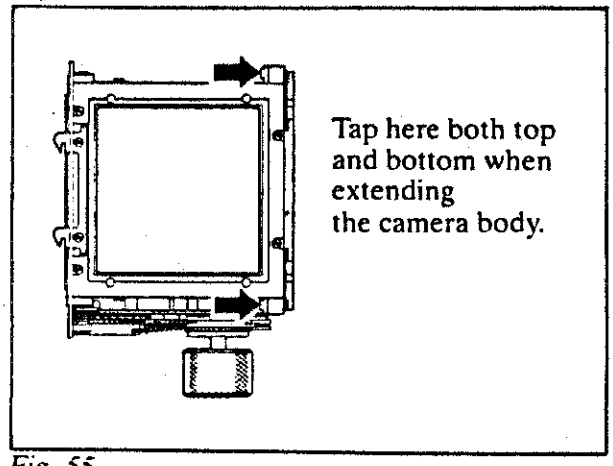


Fig. 55

Adjustment of the key's angular position

Remove the knob V-2206 and insert the bayonet plate V-2231 replace V-2206 again (Fig. 56).

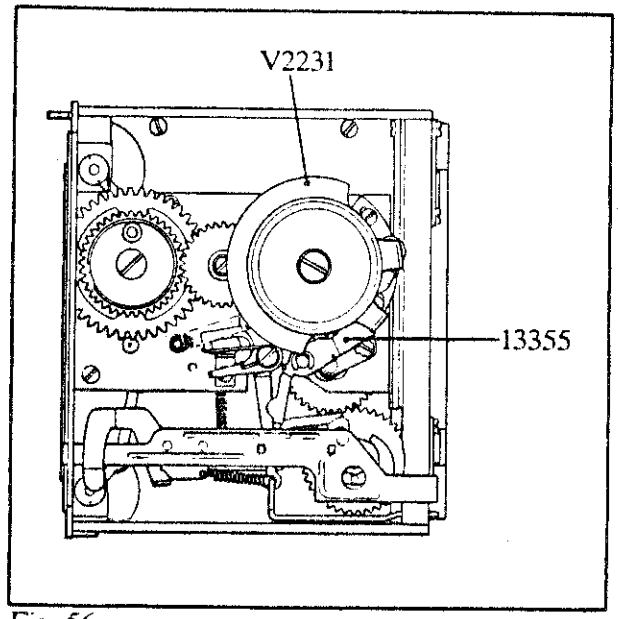


Fig. 56

Fit the key inspection tool V-2075/2151 to the camera's front plate bayonet fitting. Ensure the indicator is pointing upwards when the camera is cocked (Fig. 57).

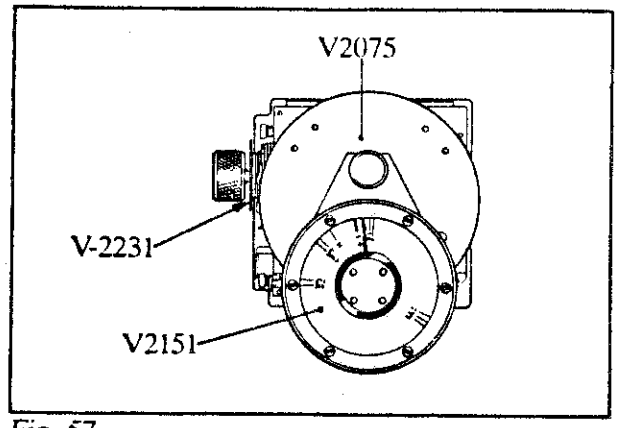


Fig. 57

Adjustment No. 1

With the film winding mechanism tensioned, loosen the screws which hold the intermediate cog wheel (13171), adjust and check the angle 15-16° with the bayonet plate V-2231 pushed hard against the stop arm (13355) (Fig. 58). Measure the angle with a spring tension of 300 gm/cm. When the correct angle is achieved the screws should be tightened (Fig. 59). Check that meshing between cog wheel (13167) and the drive cog wheel is as close as possible without binding.

Adjustment No. 2

With the winding mechanism in the free position, adjust for an angle to 8-9° by loosening the screws holding the adjustable pawl (13170). and move it until the correct angle is obtained. This measurement should also be carried out at 300 gm/cm (Fig. 60). When the adjustment is complete tighten the screws. Take care to secure VF-94 with Lastina safety lacquer.

Possible wear in the front gear (30383) can be checked by increasing the spring pressure of the inspection tool to 1400 gm/cm. The angle value should not fall below 3°. If it does the front gear (30383) should be replaced.

Inspection of the release sequence (angular value):

Free the mechanism by holding the trigger depressed (B-level). The indicator should read between 268-273° at 300 gm/cm. Release the trigger and let the mechanism return to rest. The angle should be 311°, tolerance: 306.5-321°. Inspect the S-level, this should be 118° with a tolerance 113-122°. If any of the measurements are incorrect the probable cause will be in the bevel gear or the cog wheel (13509).

Remove tool V-2075/2151.

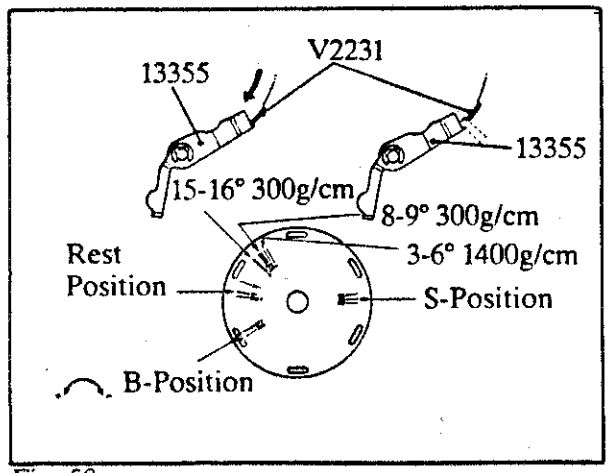


Fig. 58

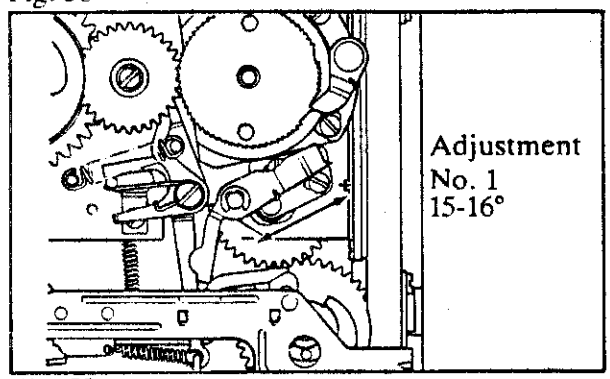


Fig. 59

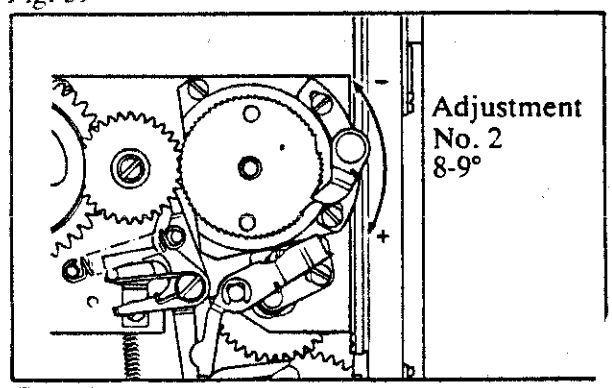


Fig. 60

Adjustment of the release mechanism

Check that the release bar (30375) is free from the signal arm pawl (1). Adjust by carefully bending the forward part of the signal arm (2). Use tool V-2200. Minimum free play: 0.2 mm (Fig. 61).

With the camera fully cocked the release bar should protrude a maximum of 0.9 mm through the rear plate. Adjust this by bending the release arm (13357) using tool V-2224 (3).

The mirror function should be checked and possibly adjusted before proceeding to adjust the release mechanism.

The mirror should be locked by the mirror catch lever (13356-1). Movement can be increased or reduced by adjusting the mirror actuating lever (13362). Adjustment is carried out by holding the arm fixed using tool V-2205 and gently bend the forward part of the arm using tool V-2201. Bend downwards for increased mirror movement (Fig. 62).

The mirror's overtravel should be max. 1 mm. Lubricate the mirror cam (22355) with grease (Fig. 63).

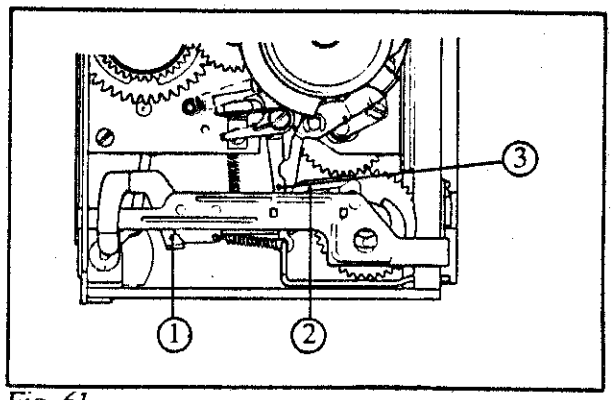


Fig. 61

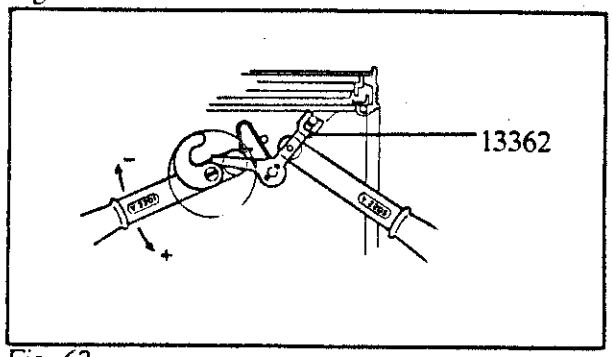


Fig. 62

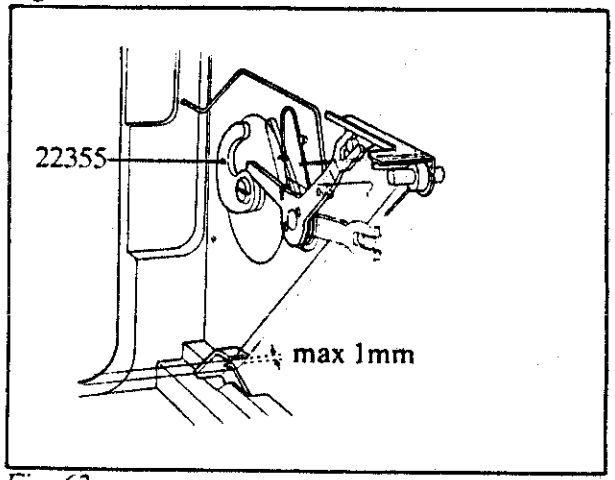


Fig. 63

For cameras above serial number RH 1271268 the following applies: push rod (22369) is adjusted so that it is set 0.15 mm below the release bar (30375) forward angle setting. Check using tool V-5942 as shown in Fig. 64. Adjust by gently bending (22369).

Position tool V-5942 as shown in Fig. 64 and press against the front plate. The mechanism should not release. The mechanism will release if the tool is tuned to position "A" (Fig. 65).

If a large adjustment is needed bend the release arm (13357) using tool V-2224. Bend forward for an earlier release and backwards for a delay in release. For a maller adjustment the push rod (22369) can be bent as shown in the diagram.

Note:
That different tools and methods are used for checking and adjusting the release mechanism on older and newer cameras.

Inspection of the release mechanism on camera below serial number RH 1271268

Check that the push rod (20953) is 0.3-0.4 mm **forward** of the release bar (30375). Adjust by bending push rod (20953) if necessary (Fig. 66).

For checking the release action use tool V-2353 in a similar manner to that described earlier.

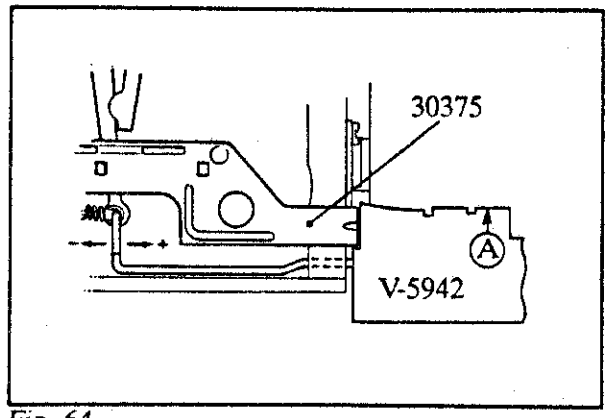


Fig. 64

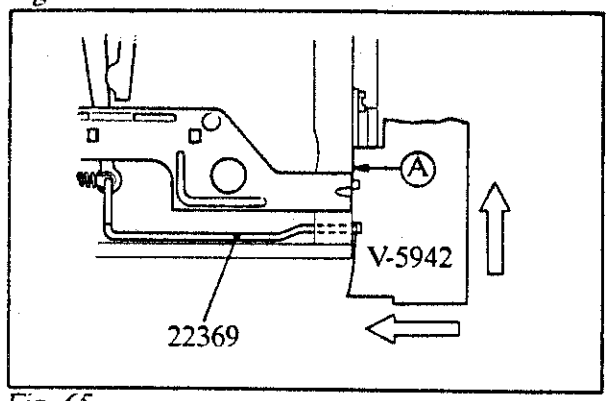


Fig. 65

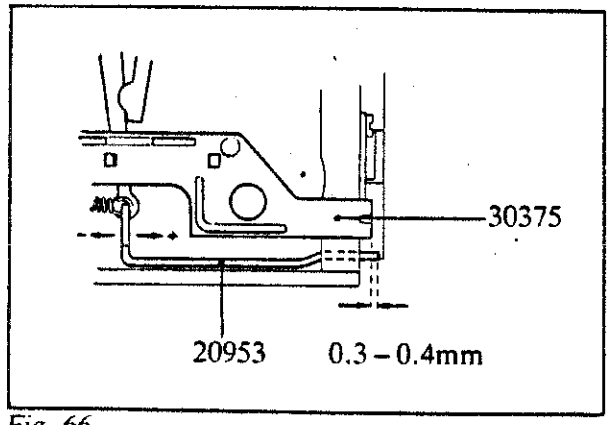
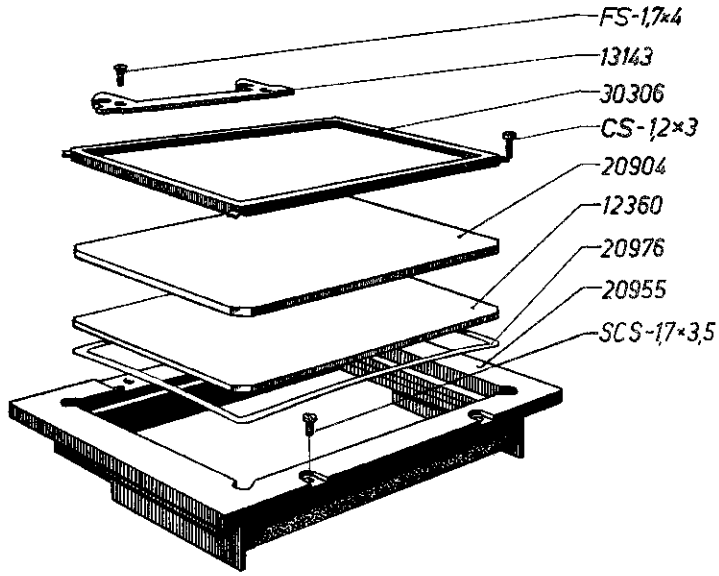
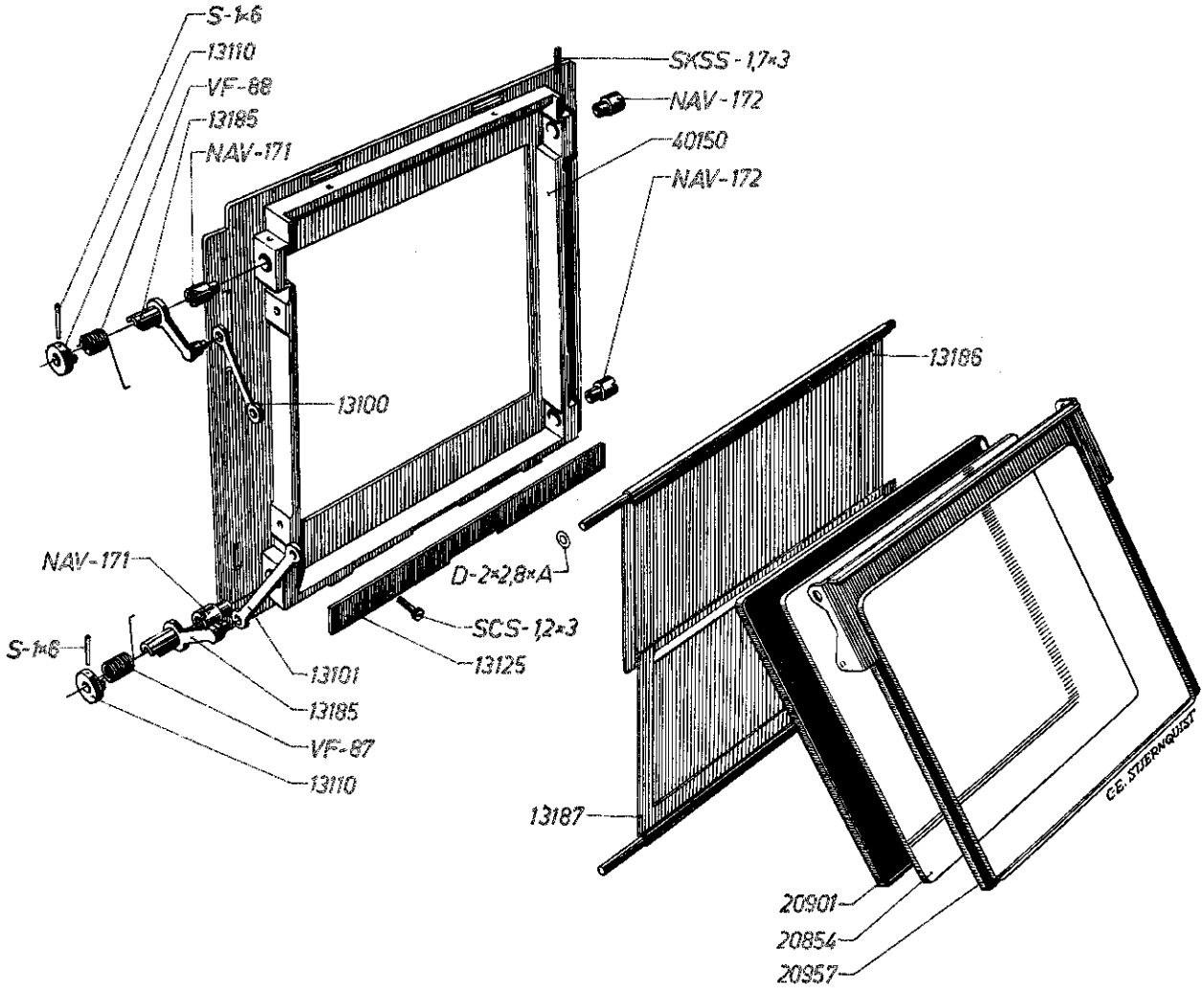


Fig. 66

Serial number CU 30000 – CE 38591





Adjustment of S-release

S-release camera shutter by operating the S-arm (21167) to the angle stop (13432). Shutter release should occur just as the S-arm strikes the angled stop. If the release is much later adjust the angle of the S-arm forward using tool V-2202 (Fig. 67).

Minor adjustments can be carried out by moving or bending the angle stop (13432).

> Note:
> That spring VF-108 should not rest against the angle stop when the camera is completely released.

Check that the cam "A" is positioned on stop "B" on S-release. Adjust by bending the S-arm forward with tool V-2202 for increased hold (Fig. 68). Do not forget to adjust the angle stop (13432). Tighten the screw and lock.

Check the auxiliary shutters close when the signal arm pawl is on the last step of the release bar's operation A, (see Fig. 69). Adjust by bending the rear of the release arm (13357) which bears on pin "B". Use adjusting tool V-2203 (Fig. 69).

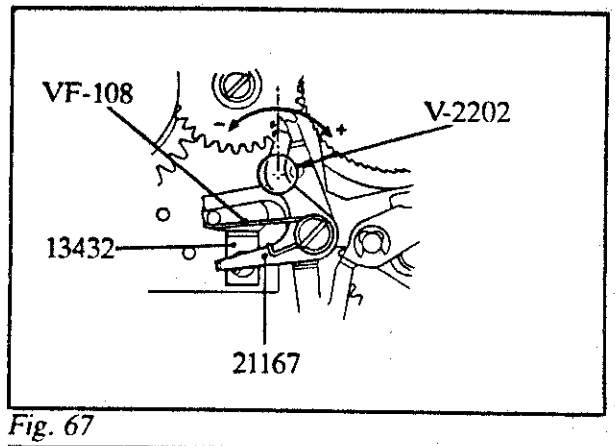


Fig. 67

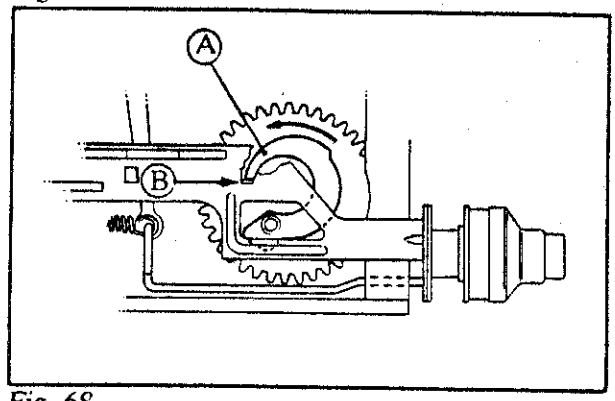


Fig. 68

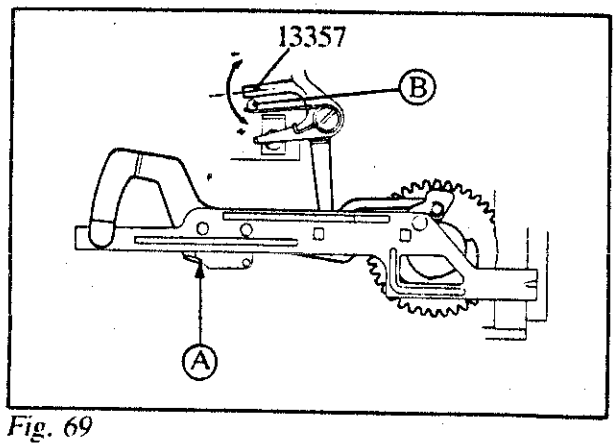


Fig. 69

Check that the auxiliary shutters do not close spontaneously when the camera is in the S mode. Test by S-releasing the shutter and carry out a number of operations of the release arm (13357). If the auxiliary shutters do close using this test, adjust the tongue on lever (13355) which stops the release arm against the signal arm at "A" (Fig. 70).

Check the lever does not jam between the release arm and the signal arm when the shutter release bar is forward.

Test by operating the shutter and letting the release bar return slowly. Check that the lever has a small amount of play during this movement.

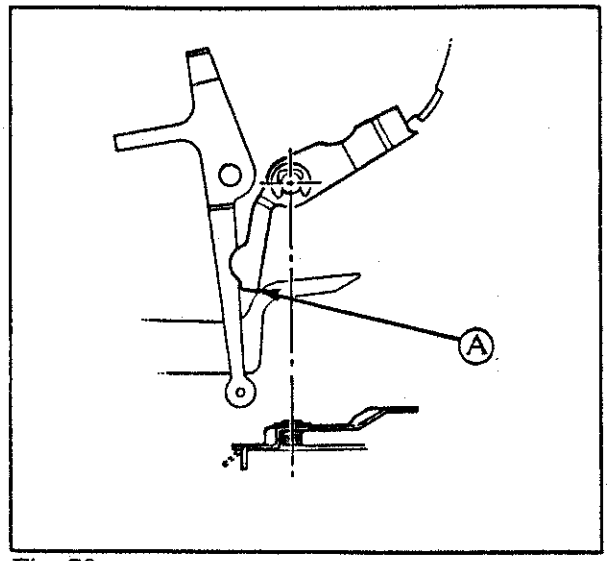


Fig. 70

Check – Stop lever (13355)

Operate the winding knob to cock the shutter. Check that the bayonet's key is locked with the stop lever when the camera is completely cocked.

Adjust by bending the front of the lever (see Fig. 71). The lever engagement will be retained until the auxiliary shutters close.

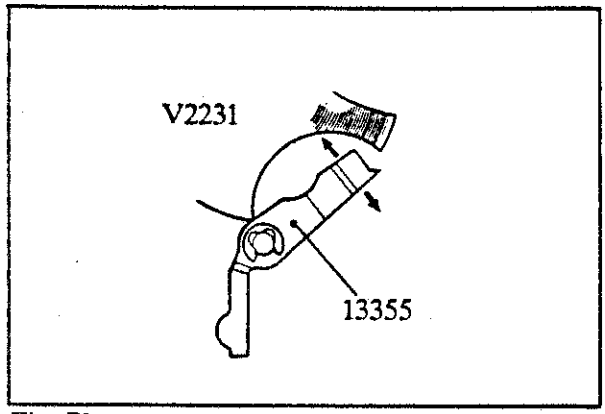


Fig. 71

Note:
The stop lever should be free of the key on the bayonet when winding on (i.e. no resistance should be felt).

Fitting the pendulum weight (22287)

Hold the spring enclosure (14280) in position and unscrew AS-118 (822605). Position the pendulum weight (22287). Lubricate carefully with grease and insert washer D-4,5x7x0.07 (810836) with the concave side uppermost. Screw in AS-118 again and tighten (Fig. 72). Check for ease of movement. Operate the camera and check that the auxiliary shutters close distinctively without slamming.

Adjust the spring pressure if necessary. Test the function by opening the shutter and letting it close slowly. Both shutters should close steadily. Check that the shutters are level to ensure a light seal around the edge.

Operate the S-release lever so that the camera auxiliary shutter opens to the B-level (see Fig. 73). Check that the auxiliary shutter blinds do not impinge on the light path. Alignment of the blinds can be adjusted by holding the shaft using pliers and carefully bending in the desired direction (see Fig. 74).

Check that the shutter pivot point is not loose on the shaft. If this is the case a new shutter must be fitted. Check that on closing the top shutter the shutter is positioned 4-5 mm in front of the lower shutter blind (Fig. 74a).

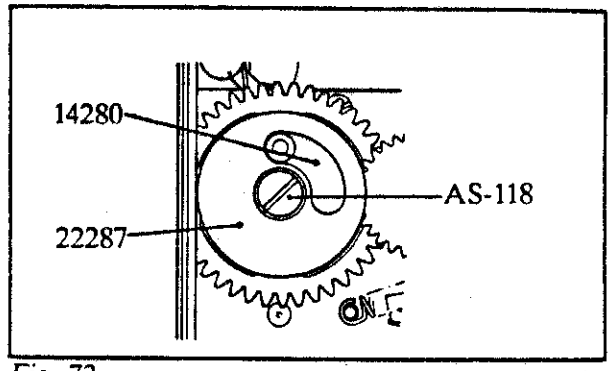


Fig. 72

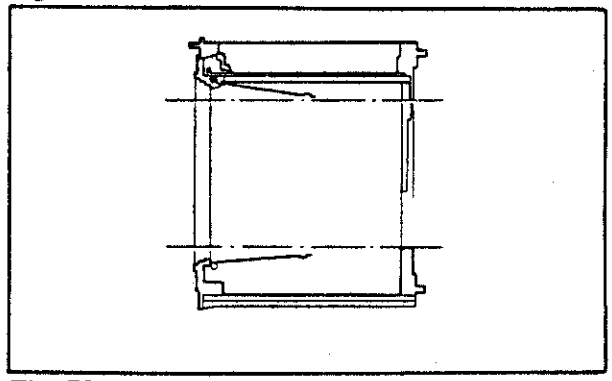


Fig. 73

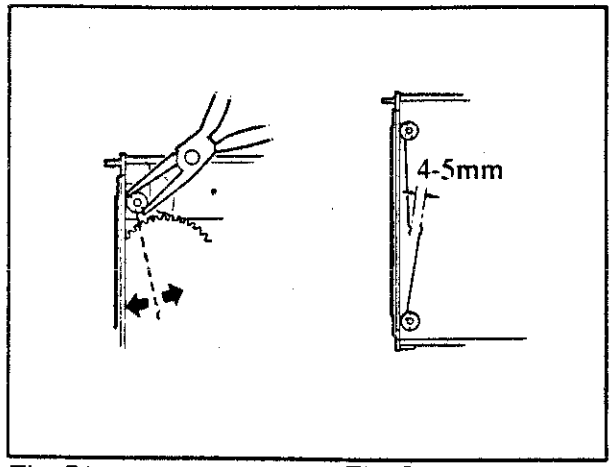


Fig. 74 *Fig. 74a*

Check that the lens lock (13280) does not protrude in front of the lens position on the bayonet front plate when the camera is cocked. When the shutter is released the lens lock should be positioned against the bayonet ring (Fig. 75).

Check security and locking of all screws.

Remove winding knob V-2206.

The camera body is now ready to fit into the camera shell.

Fitting the camera body into the shell

Check the camera shell.

Check the strap buttons.

Footplate.

Shutter release and lens lock buttons, freedom of movement.

If the shutter release button binds, dismantle and clean in petrol. If there are any burrs developed in the bushing polish out with V-2218.

Check that the lock spring VF-112 is positioned correctly (Fig. 76).

Do not lubricate.

Adjust the spring pressure by releasing CS-1,2x3.5 and rotating the spring if necessary.

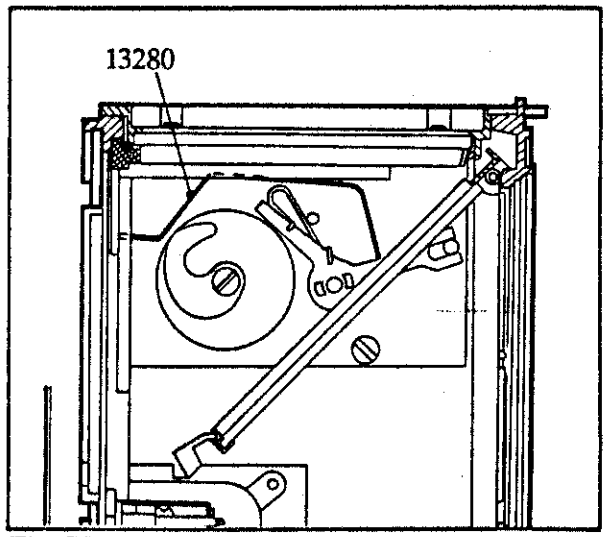


Fig. 75

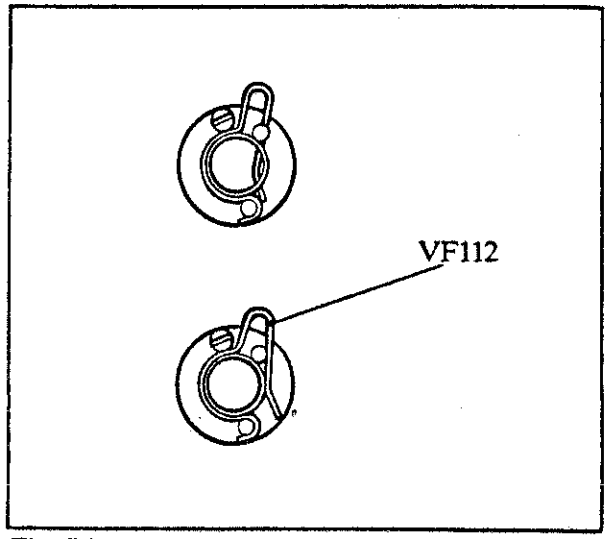


Fig. 76

Fit the release button (13134) with buffer (22367) and screw (13137). Locate into the spring fixing position, and tighten the screw.

Check the T-lever action, if the action is not positive replace spring (13418).

Place both distance spacers (810617) in their respective cutouts in the forward part of the camera shell (Fig. 77).

Note:
The rubber stop (22353) fitted inside the lens release button.

Install the lens release button.

Fit the teflon cone (22368) onto the shaft on the camera body.

The camera body can be fitted into the shell.

Note:
That the S-arm (21167) has to be fitted using a spring hook to ensure that the S-button (22385) is positioned beneath the S-lever (Fig. 78).

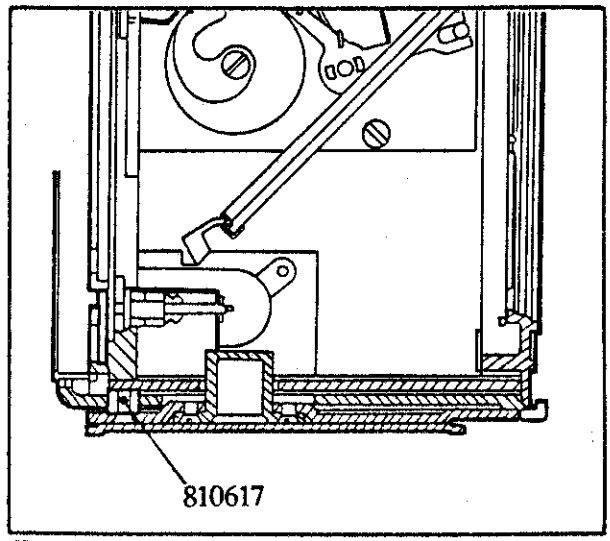


Fig. 77

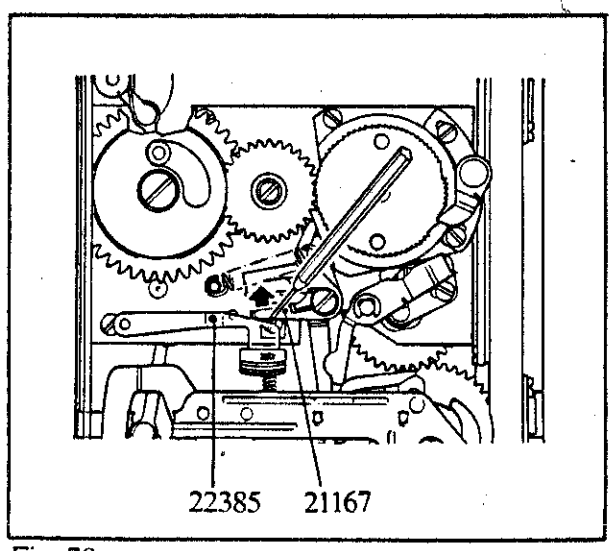


Fig. 78

Press the camera body home until the camera body rear plate and the camera shell are aligned.

Secure the camera shell with Qty. 2 screws (823781) in the front of the base plate and Qty. 2 (824701) in the rear of the base plate. Position the tripod socket (103342) using Qty. 4 (823735).

If the camera body and shell do not align, this can be corrected by adjusting screw (103458) in the front centre of the shell bottom. Loosen the bottom shell screws and adjust it in the desired direction, then secure again. Check that the rear edge of the shell doees not protrude over the rear plate at any point.

Tighten the screws.

Fit base plate slide (103349) and secure using Qty. 4 screws (823735).

Check the operation of the lens release button.

Fit the bayonet plate (13163) and intermediate disc (13360), secure with SCS-3x5,5 and washer (13436).

Install the winding knob or crank.

Operate the winding mechanism and test run camera.

If the film winding knob is binding on the shell the intermediate disc (13360) can be changed with (13360-1) which is 0.40 mm in comparison to the 0.20 standard washer.

Install the view finder screen.

Checking and adjusting the camera body focal length, mirror angle and view finder screen position

Place the camera in fixture V-2229. Check that it is firmly fitted and secure the fixing screw. Place the test plate into the camera front bayonet plate.

Adjust the dial indicator to zero when measured across the top of the fixture. See test measurement "A" (Fig. 53). Transfer the measuring sensor to the test plate and check that the focal length is within the tolerance ± 0.03 mm. The camera can be shortened by careful adjustment on the plate or extended by adjustment from the inside of the bayonet plate.

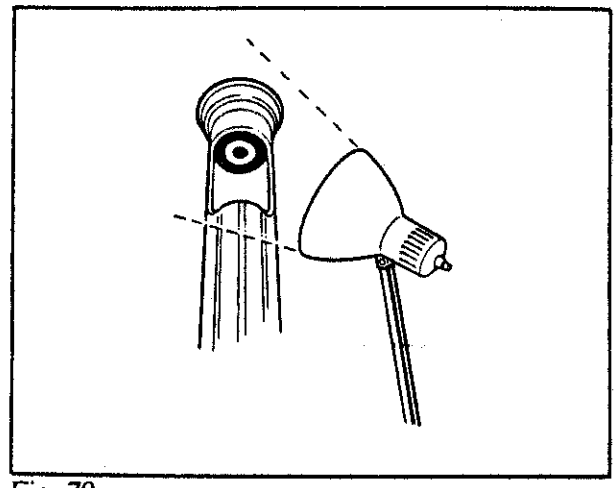


Fig. 79

Note:
That the front bayonet plate upper part is thin and will not withstand any adjustment knocks. In the upper part the adjustment has to be carried out on the outer edge of the front plate.

Set up the mounting fixture so that the camera's view finder screen is facing upwards.

Check the mirror 45° angle using the sighting tube which fits in the holder on the fixture. Tighten the locking screw. Shine a light source towards the oval cutout in the upper part of the tube so that the white ring of the ocular is illuminated (Fig. 79).

When the mirror is at 45° the pattern in the sight tube will appear as shown in Fig. 80.

Check that the inner white circle is symmetrical and does not lie outside the inner black field.

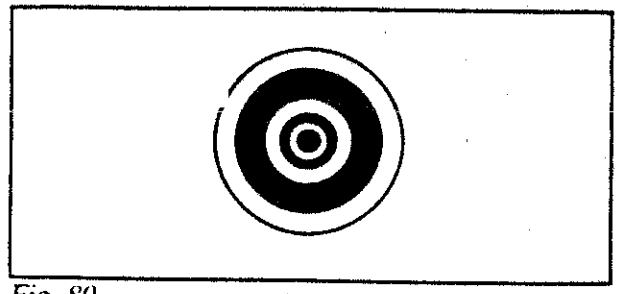


Fig. 80

The mirror level is adjusted by bending the mirror support (13121) on the left hand wall and/or the mirror catch lever (13356-1).

After adjustment is completed remove the sighting tube.

View finder screen adjustment

To adjust the screen height there are four special screws (21606) in the screen frame. Use key V-4704 for adjustment (Fig. 81).

Each rotation of the screw alters the height by 0.35 mm. A cross is engraved on the tool's upper surface to help determine the amount of adjustment that has been carried out. Use the standard focusing screen or V-4705 for adjustment. Fit tool V-4151 into the camera's front bayonet plate and switch on the lamp.

Position microscope V-2236 on the focusing screen and check that the green and the red lines are parallel. Adjust the screen height until the red line is central between the two green lines (Fig. 82).

Replace the microscope and set up the straight edge with the dial indicator so that the sensor is in the centre of the screen. Note the reading on the dial. Adjust the screen so that the same measurement is obtained at all four corners.

Check that the focusing is still correct in the centre of the screen.

Remove the camera body from V-2229 and lock the screws 21606 with 'LOCTITE' blue.

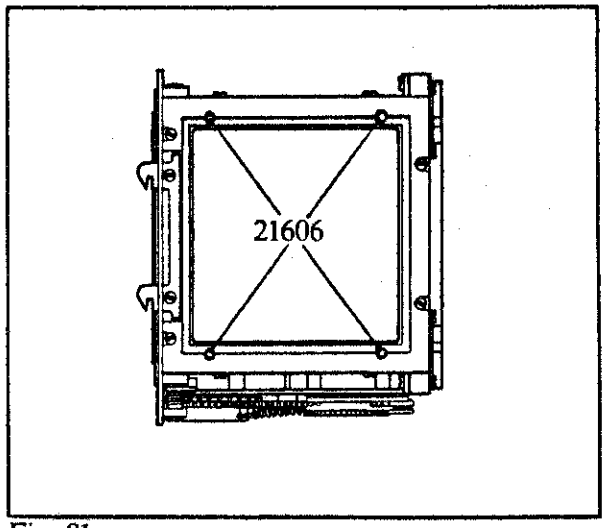


Fig. 81

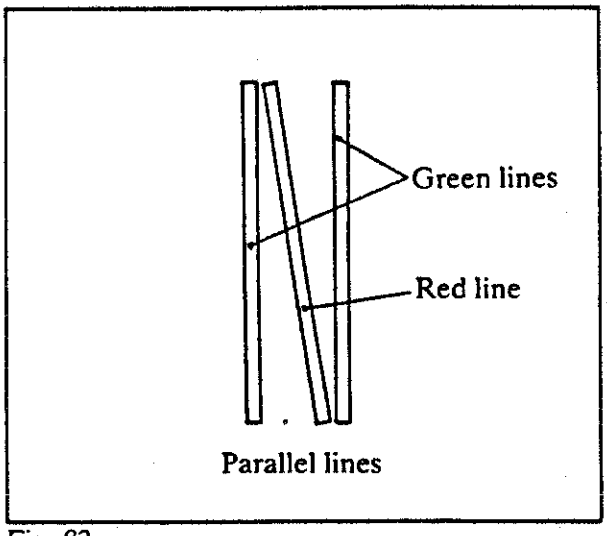


Fig. 82

Clean the focusing screen and re-install it into the camera.

Fit the standard focusing hood onto the camera.

Operate the S-release on the camera body and fit both the inner covers 21141 and 21148 using screws SCS-1, 7 x 2, 2 (821031).

Check the camera functions. Check that the auxiliary shutter is clear of the internal covers.

Check the release sequence using a micrometer V-2354.

Prime the camera by tensioning the winding knob.

Screw the micrometer in the exposure button's cable release socket. Carefully screw in the micrometer's screw until the camera releases. After releasing it should be possible to turn the micrometer a further 1 or 2 notches before it bottoms. Screw out the micrometer slowly and observe the closing sequence.

Key releases and takes up the bottom position.

Auxiliary shutter closes. Note that the winding knob is blocked all the time until the auxiliary shutter closes.

The exposure signal changes to red.

If the above checks are incorrect then the camera should be dismantled from the camera shell for adjustment as previously described in adjustment of the release mechanism.

Check, using a magazine, that the magazine can be positioned on the camera and the locking action functions.

If the lock does not function the magazine hook can be adjusted by filing as shown in (Fig. 83).

Note:
Ensure when filing that tests are made often and finally that the magazine fits snugly otherwise it will result in play between the camera body and the magazine.

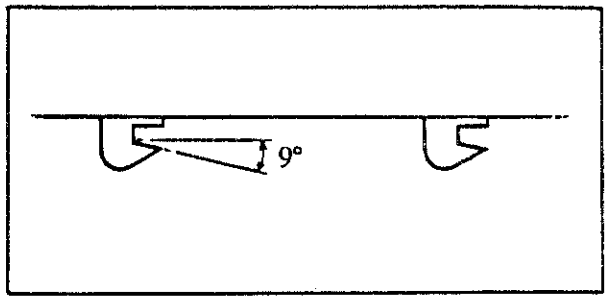


Fig. 83

Test run the camera with a loaded magazine and a lens fitted.

Clean the viewfinder and mirror and check the finish. Touch up any damaged paintwork.

500C

Pcs	Part No.	Description	Price (each)	Next assy.	Remark
3	13118	Bayonet flange		30328	
1	13120	Shaft	×	30329	
1	13126	Shim		50109	A=0,15; 0,20; 0,25; 0,30 mm
1	13127	Shim		50109	A=0,15; 0,20; 0,25; 0,30 mm
1	13128	Key	×	30329	SVL No. 5/59
1	13140	Teflon button		50109	
1	13142	Locking pin		30328	
1	13146	Bayonet flange		30328	
1	13164	Lens catch		30328	
1	13168	Gear	×	30329	
1	13188	Plate		20962	
1	13189	Latch		20962	
1	13196	Plate	×	30329	
2	20917	Gear	×	30329	
1	20938	Bracket	×	30329	
1	20946	Cover		50109	
1	20962	Locking mechanism		30328	
1	30328	Front plate, complete	×	50109	SVL No. 2/58; 2/60; 2/64
1	30329	Front gear mechanism	×	30328	SVL No. 2/58; 2/60; 2/64; 16/64
1	40154	Front plate	×	30328	SVL No. 2/58; 2/60; 2/64
1	40160	Camera body, complete	×	—	
1	50109	Camera body, assy	×	40160	
1	AS-113	Screw		30328	
1	AS-114	Screw		30328	
1	AT-358	Rivet		20962	
1	CP-1,2×6,1	Cylinder pin		30326	
9	CS-1,7×3,5	Screw		30328	
4	CS-1,7×3,5	Screw		50109	
1	CS-1,7×4,5	Screw		30328	
2	D-1,8×3×1,10	Washer		30328	
2	D-3,1×5×A	Washer	×	30329	A=0,05; 0,10; 0,20; 0,30 mm
2	DF-89	Draw spring		30328	
2	FS-1,7×4	Screw		30328	
1	FS-1,7×7	Screw		30328	
4	S-1×5	Pin	×	30329	
1	SCS-1,7×2,2	Screw		50109	
1	VF-91	Torsion spring	×	30329	

See also page 6

Printed in Sweden

8 71

× = This part will not be supplied; A = assortment

▲ = This part should be ordered from the Sales Department.

Repair

Rear Plate (30519) **with Auxiliary Shutter and Mirror**

Dismantle by removing two pins S-1 x 6 (811108), spring retainer 13110, spring VF-88 (816805) and lever 13185 (Fig. 84).

> Note:
> Remove the safety lacquer with acetone or similar.

Loosen both locking screws SKSS-1, 7 x 3 (825060).

Extract both pivots NAV-171 (840514) after which the upper shutter and the mirror can be removed. Ensure that any adjustment washers on the shutter shaft are retained. The lower shutter is dismantled in a similar manner. Light trap 13125 is held in place by qty. 2 screws CS-1, 2 x 2 (821203).

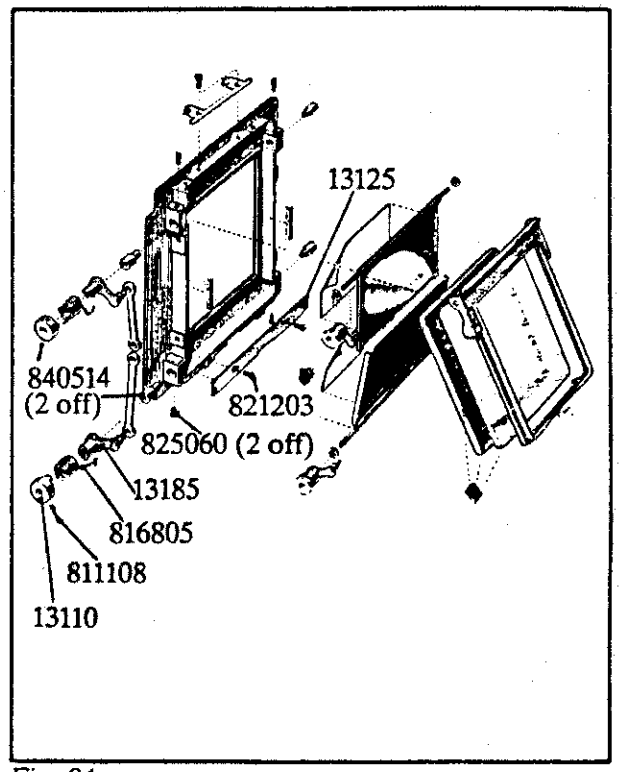


Fig. 84

Exchanging the mirror glass 20854

Carefully bend up both tabs on the front of the mirror frame and remove the mirror glass with its protection 20901. Check that the three foam plastic protection pieces 13141 have sufficient resilience, exchange them if necessary (Fig. 85). Insert the new mirror into mirror frame, carefully bend back both tabs, check the three tabs at the rear of the mirror.

> Note:
> That the mirror frame is bent so that the left hand front corner is 0.8mm below the right.

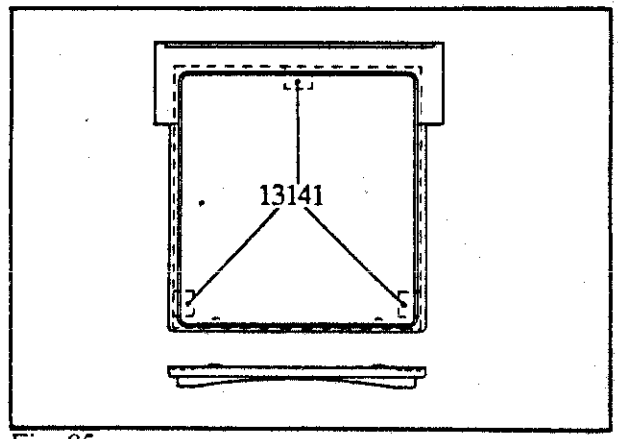


Fig. 85

Check that the mirror glass can move freely in the frame by gently pressing on the points arrowed (Fig. 86).

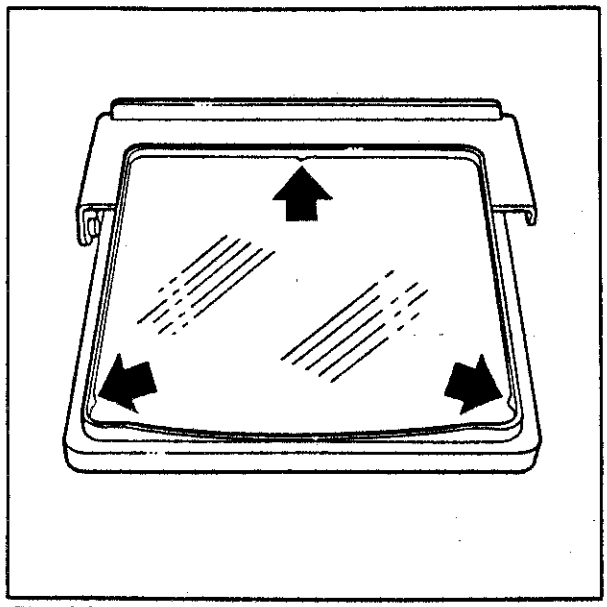


Fig. 86

Fit the mirror and the upper auxiliary shutter by holding the mirror in position and aligning the upper auxiliary shutter to both the bearing holes (Fig. 87).

Push in both bearing pivots NAV-171 and centralise the mirror. Tighten up both screws SKSS-1, 7 x 3 (825060). The shutters side movement and centring is adjusted by shim washers D-2 x 2, 8 X A. These come in two thicknesses 0.10 and 0.20mm 810503 and 810505 respectively.

Fit the lower shutter in the corresponding manner.

Check that the shutters and the mirrors move freely and that the shutters are central to the rear plate inner frame.

Check that the foam plast dampers 13397 are in place and glued to the rear plate where the lids meet.

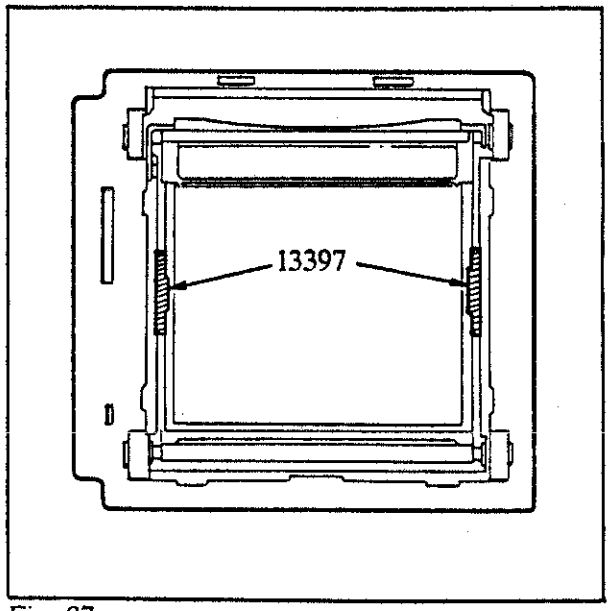


Fig. 87

Assemble the lever, spring and spring retainer. Locate the spring so the three items are together – see Fig. 88. Connect the three items to the shutter shaft and secure it with pin S-1 x 6 (811108).

The lower shutter is complted in the same manner but note that a weaker spring is used, VF-87 (816804).

Check that the upper shutter spring pressure is approximately twice as strong as the lower shutter.

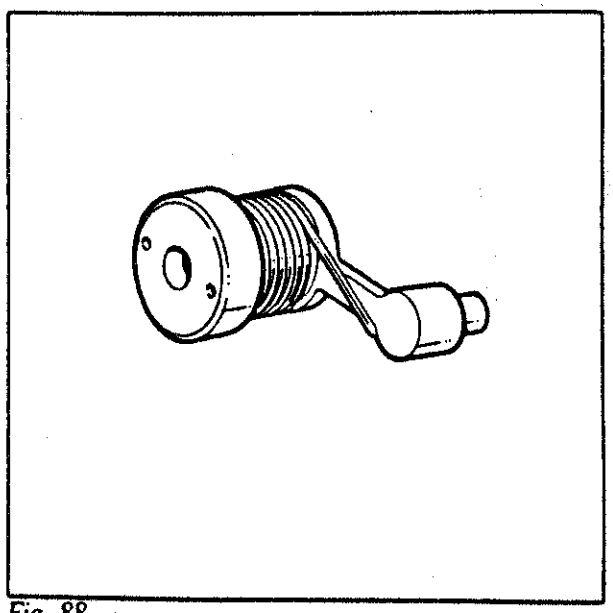


Fig. 88

Jammed Camera

If the camera jams without either the lens or the camera mechanism being damaged or broken, this can be released in the following manner. Check that the lens is correctly fitted to the camera body (i.e. that the central index points directly upwards). Remove the magazine and open the auxiliary shutters. Using tool V-2222, turn the key shaft clockwise until the lens is completely open. In this position the lens release button can be operated and the lens removed. Check the lens and the camera body function independently and if all functions are correct replace the lens and test run the camera.

If the camera jams and the lens is not in the correct position the following method can be used. Open the auxiliary shutters and remove the front gear cover 22341. Unscrew CS-1.7 x 4.5 (820018) which holds the front gear, three turns. Rotate screw SCS-1.7 x 4.2 clockwise to move the drive mechanism backwards into the camera. The key and cylinder pins CP-1, 2 x 6.1 will be pulled out from the lens bayonet plate and the lens can be removed from the camera. Return screw SCS-1.7 x 4.2 to its original position and tighten the drive mechanism screw CS-1.7 x 4.5. Lock with safety lacquer and fit cover 22341.

Check the cylinder pins on the front plate, the key and the catch lever on the lens bayonet plate.

Some jamming occurrences can be released by removing the winding knob and the bayonet plate and the camera is cocked using the auxiliary knob V-2206. Check that the auxiliary shutter is not jammed in the open position. If this is the case the upper shutter will be damaged on its shaft when the mirror drops.

Brief Technical Description Hasselblad 500 C/M

In the following the camera mechanism is described (as shown in the Fig. 89 and 90, Sections 12 and 13). The tensioning sequence, exposure sequence, the restoration sequence and the S-release sequence are described.

Figure 89 shows the camera with its mirror up and the auxiliary shutters (2,3) open ready to expose the film. The front gear wheel (L) has rotated part of its movement, and the lens shutter is closed. The release bar (Q) initiates the start sequence.

On exposure the key reaches its end position, and the lens shutter is released. When the exposure button is pressed, the auxiliary shutter closes. The release bar is blocked for tensioning the camera's mechanism, the magazine and the lens shutter.

Note:
The camera mechanism can be tensioned and released, without the magazine or the lens in position.

Tensioning sequence

Tensioning is carried out via winding knob (A) which is attached to the knob bayonet, this is secured to the spur wheel (C) via a holding screw. The knob bayonet is free to rotate because the stop lever (S) has moved from the blocking position (controlled by the release arm (U) and the signal arm (R)).

Spur wheel (C) is mounted on a fixed shaft. On the same shaft is mounted gear wheel (D) and the gear wheel with the spring drive (E). On the opposite end of the shaft the mirror cam (Å) is positioned by a screw. The shaft is mounted onto a bearing housed in gear box (A).

Gear wheel (D) transfers the rotation to gear wheel (H) via the intermediate gear (G). Gear wheel (H) acts as a tensioning wheel for the auxiliary shutters spring (2 & 3) operation. Gear wheels (J & K) are hand tensioned when setting up and play no part in the tensioning sequence.

On the gear wheel is a fixed AT pin, mounted on the pin is the advance pawl (4). When operated the advance pawl end (5) engages gear wheel (E) and draws the gear wheel one complete revolution until the impact pawl (6) contacts the impact stop (7).

Gear wheel (E) is, via intermediate gear wheel (F), meshed with the front gear wheel (L). In operation it tensions rotating spring (P) and tensions via the front gear (M) key. The front gear operates the lens shutter.

Gear wheels (E, F, L, M) operate in the exposure sequence. Drive for these gear wheels is completely dependent on P's drive motion and tension. The ease of movement of these wheels therefore is of great importance. In figure 90 there are further elements which are activated during the exposure sequence, including the brake (centrifugal governor) (8) which is meshed with gear wheel (9) on the front gear shaft.

The operation of the mirror is controlled by the mirror actuating lever (X), which is pivoted in bearings. The aperture end lowers the mirror via a forked holder which is located to the mirror holder pin (10) through linkage to the mirror. When the operation is almost complete, the mirror catch lever (11) operates and engages in a cut out on the cam in the gear wheel (12). The other end of the catch lever (11) secures the mirror in the down position the other side of the mirror rests on a stop on the left wall.

Referring to figure 89, auxiliary shutters are operated by the drive gear wheels (J, K). These are operated by a spring (13) of the clock spring type housed inside gear wheel (H). When tensioned the cam wheel (K) has turned via the gear wheel and is blocked by arm Ö.

Release bar's (Q) projecting end (14) has returned to the rear plate surface +0,8mm.

Before tensioning the signal arm (R) end (15) rests on the cam at (16) and the arm shows a red signal at the window (17).

Exposure sequence

Push rod (1) operates release arm (U). The release arm's opposite end operates the rotating pawl (4) which releases gear wheel (E) by releasing end pawl (5). Rotary spring (P) stored energy causes the gear chain to rotate together with the front gear, until wheel (E) operating pawl (6) stops the movement against the stop (7).

At the same time the following occurs. The end (21) on the cam of gear wheel (L) engages pawl (22) on the release bar (Q). The cam has an increasing radius between (21) and (23) and operates the release bar so that the end (14) operates a signal in the magazine, or is blocked by the film end stop or by the insertion of the magazine slide.

When the trigger bar (Q) is operated via the exposure button (T), the signal arm (R) lifts the upper pawl at (15, 19) but the release bar stops the fall of the signal arm unless the pawl has rotated to (24, 25). The white signal flag is displayed at the window at (17).

During the exposure cycle the mirror catch lever (11) is operated by the cam (12) and releases the mirror. The spring (26) has, via a primary and secondary movement, lifted the mirror so that it moves and closes the focusing screen opening.

When the mirror goes up the mirror actuating lever drops to the mirror cam (Å) starting point. The mirror actuating lever is held via the shutter bar (Y) which also completes the blocking function at (18).

Release arm (U), releases the pressure against the stop (27) which is fixed on the block arm (Ö) and the spring (28) lifts block arm (Ö) disengaging pawl (e) from the drive wheel (K).

Gear wheel (J) whose teeth are meshed with drive wheel (K) is operated by the spring (13). The gear wheels rotate and, via their cams and connection rods (N, O) which are connected to auxiliary shutter (2, 3) open the auxiliary shutters for the exposure.

When the gear wheel has rotated a half turn it is stoped by (g) operating against the blocking arm (Ö), the same action occuring for gear wheel (J).

In order to stop exposure, if the shutter is not completely open, the mechanism is equipped with a blocking arrangement. The end block (Z) abutts with one common gear wheel (E). This is a stop cam (29) which stops the gear wheel's rotation until pawl (a) opens. This occurs when the shutter opens completely. This action frees the block at (29) and gear wheel (E) rotates.

The brake (governor) (8) is appropriately sized so that a given movement is obtained from the rotary spring (P). The governors gear wheel (g) and C coupling (30) are connected via spring coupling (31) this effectively prevents hard bottoming on the key and the conical gears (M).

Operating of the exposure button

When the exposure button is released the release arm (U) and the blocking arm (Ö) via the spring (32) are released. Blocking the pawl at (g) is eliminated. The auxiliary shutters (2, 3) are closed. To provide damping on closing gear wheel (H) is fixed to the spring housing lid (33) whose stop strikes the pendulum weight (34) arranged on the same shaft with a friction coupling via washer (35). The wheel turns 180°. The pendulum weight has a free swing of 100°.
The shutters connecting rods (N, O) are arranged to ensure that the upper shutter (2) is closed before the lower (3). The shutter is spring loaded on its shaft.

The release bar (Q) releases the pawl on (24, 25). The signal arm falls on the cam to the level (16). The angle (36) on the signal arm pawl prevents the release bar being operated by blocking the angle (24) (double exposure block).

The stop arm (s) is operated via the release arm (U) and signal arm (R) will indicate a new operation, this will release the winding knob bayonet to retension the camera.
To permit the adjustment of the key's angle the camera and the intermediate gear wheels (F) bracket is provided with two elongated holes.

S-Exposure

On S-release the following occurs a) lens shutter closes b) mirror releases, and c) the auxiliary shutter opens. This occurs when the angle arm (37) is operated by the S-release button. The arms' opposite end activate pawl (4). A projection (n) on the angle arm (37) activates the release arm (U) by pin (38). Release arm (U) which is connected to release bar (20) operates the release bar so that pawl (22) blocks the front gear using cam (21).

When the release button is activated, cam (21) is released an the lens shutter makes an exposure.

Figure 90 shows the lens lock (39) on the mirror activating lever (X). When the mirror has dropped the block function is released and the lens can be fitted to the front bayonet plate.

Functional Description

Figures 91 to 96 show the timing and the operation sequence. The above scale is graduated in milliseconds where each line refers to 25ms and where the sequence of events are shown in time (Fig. 91).

The left vertical scale is divided into degrees and gives the key attitude for the different movements.

When the exposure button is pressed the following occurs: (see Fig. 92 - 96)

The key is released and begins to rotate whilst at the same time the shutter and diaphragm in the lens starts to close. After about 15ms and at 120° key angle the central shutter is closed and the mirror begins its upwards

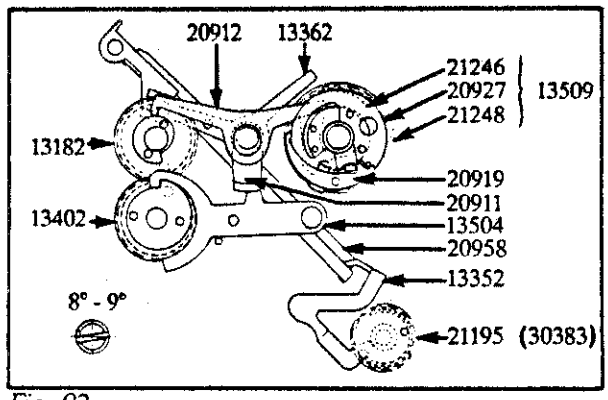


Fig. 92

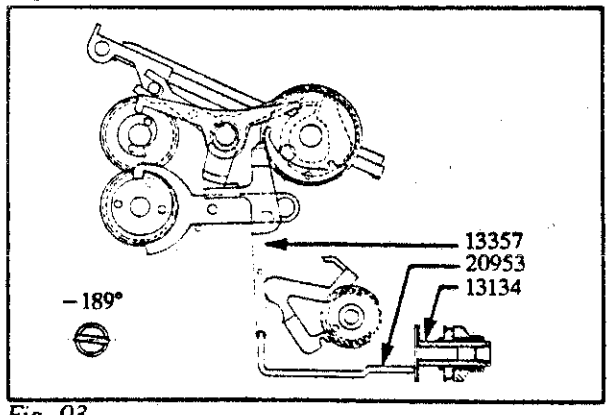


Fig. 93

movement. At 200° the camera key is stopped at about 35ms, this allows the mirror and the auxiliary shutter to complete their action before the central shutter opens for exposure. At about 40 ms the mirror is fully up and the auxiliary shutter begins to open. After 60ms the auxiliary shutter is open.

The camera key continues rotating and the lens diaphragm continues to move down to the preset value. After 70ms and at 280° key angle the diaphragm stops. If the objective lens synchronising is set at "X" the central shutter now opens and stops open for the set time. If "M" function is set the central shutter's opening time is delayed 16.5ms in order to give the flash time to achieve its full effect.

When the exposure button is released the auxiliary shutter closes and the key reaches 319° at its bottom level. The dotted line in Fig. C indicates a S- release. The key has stopped at 120° and the central shutter has closed. The diaphragm has stopped down to the set value and the mirror and auxiliary shutters are open. On operating the exposure button exposure continues as the central shutter carries out an exposure to the pre-set aperture and shutter speed.

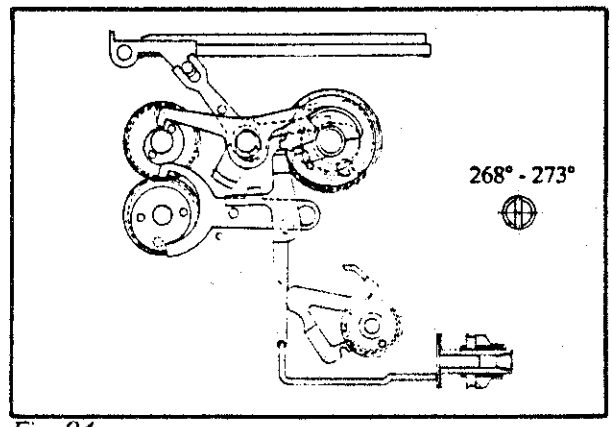


Fig. 94

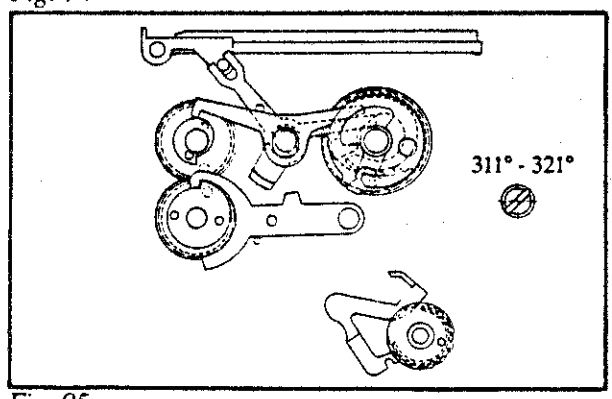


Fig. 95

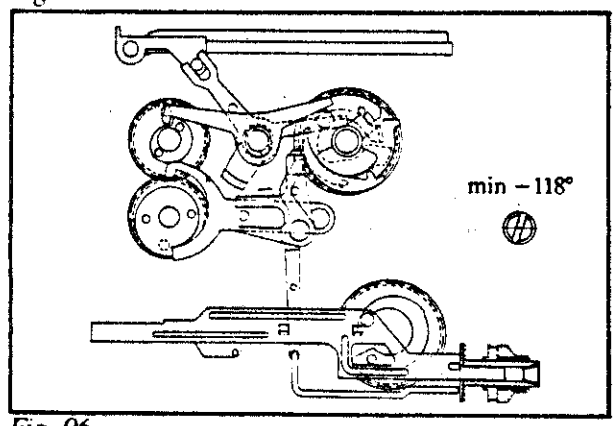
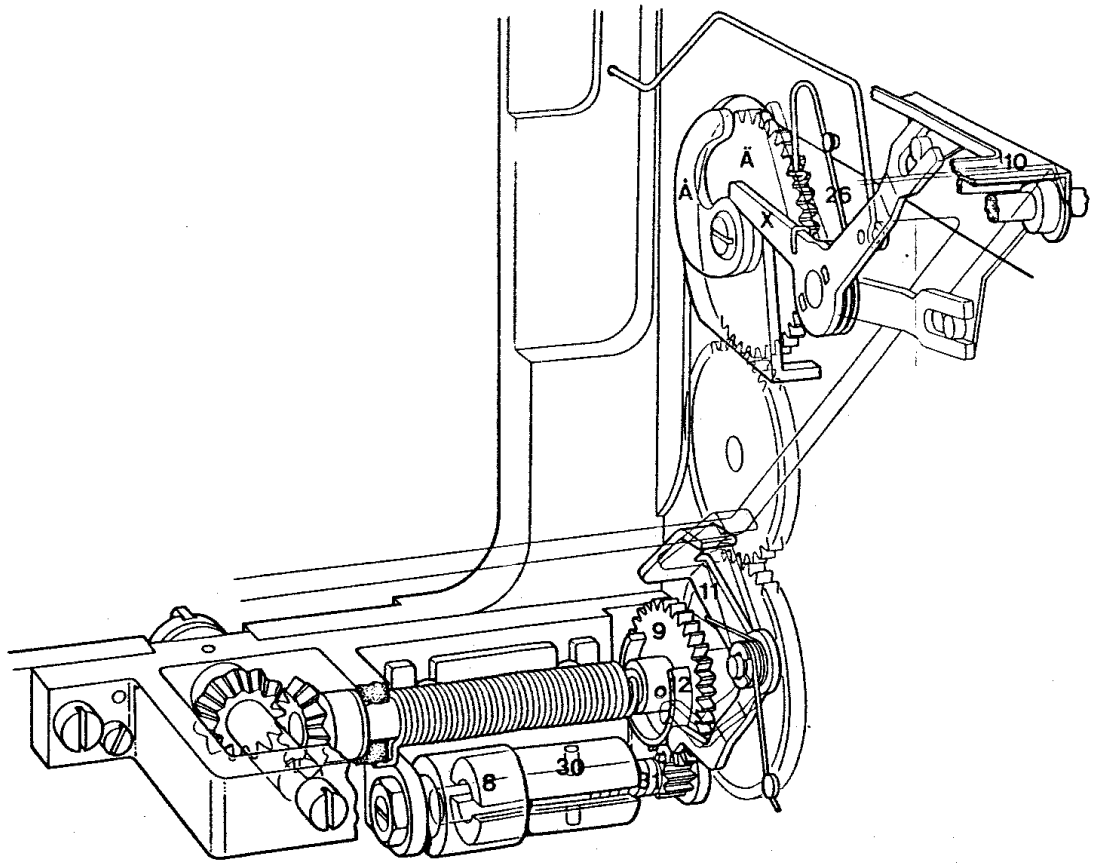


Fig. 96

Front Gear and Mirror Mechanism



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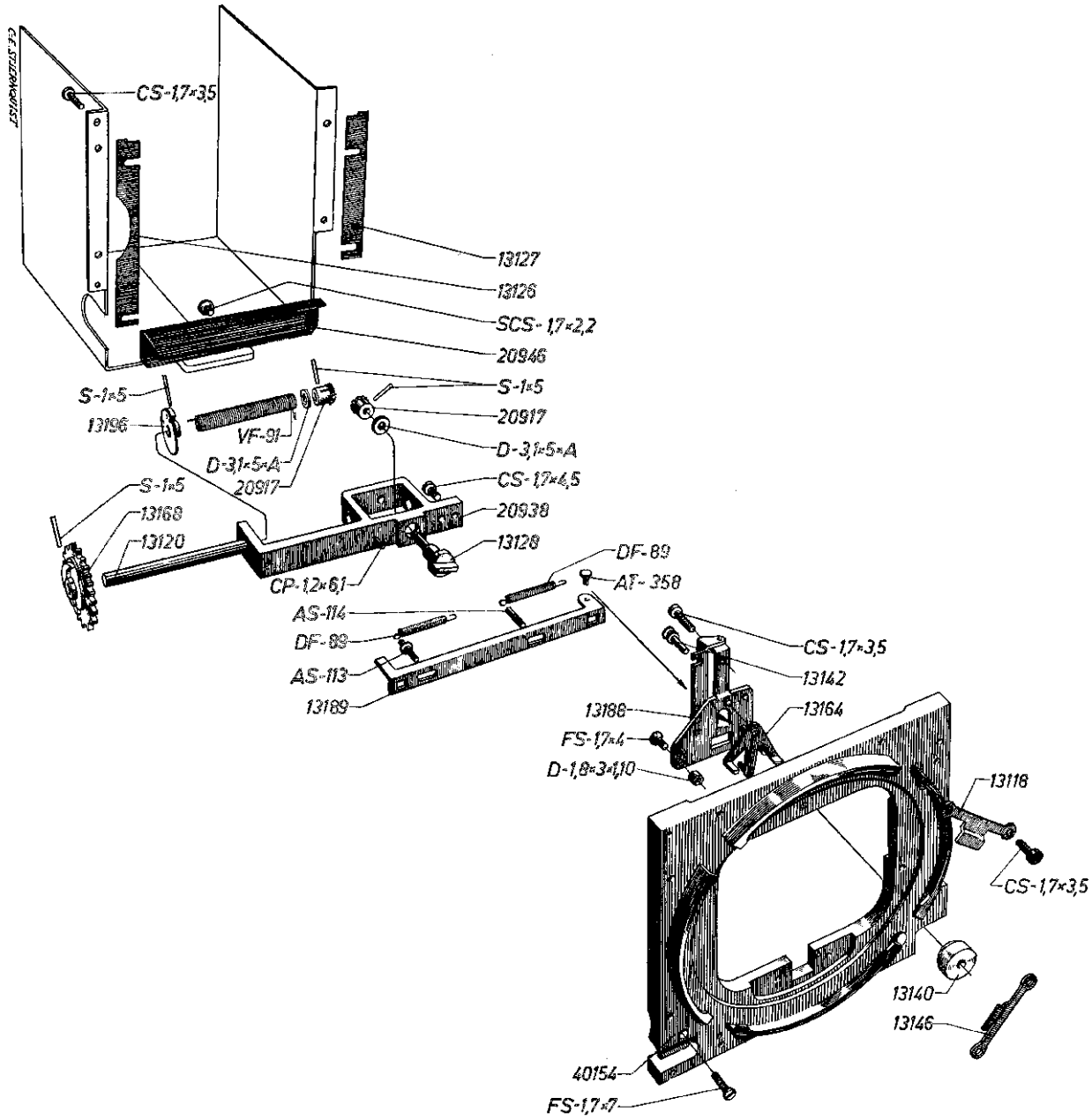
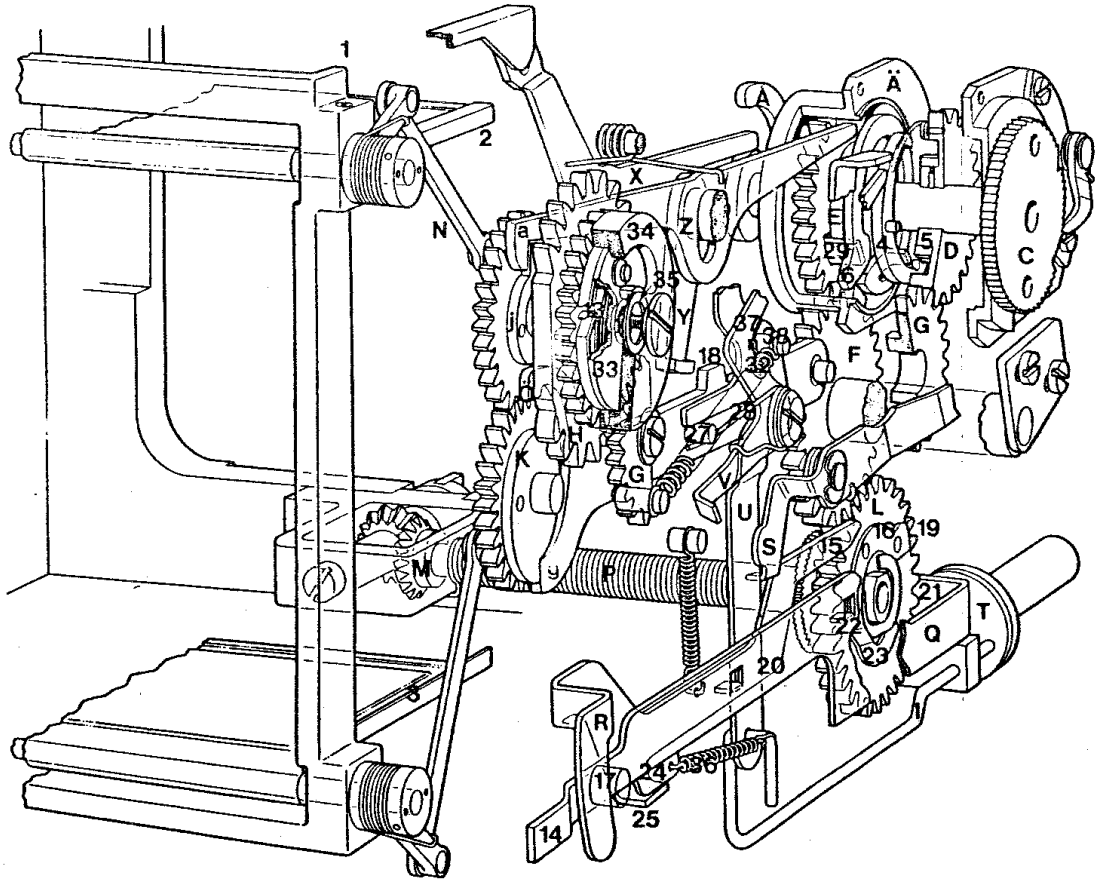


Main Mechanism



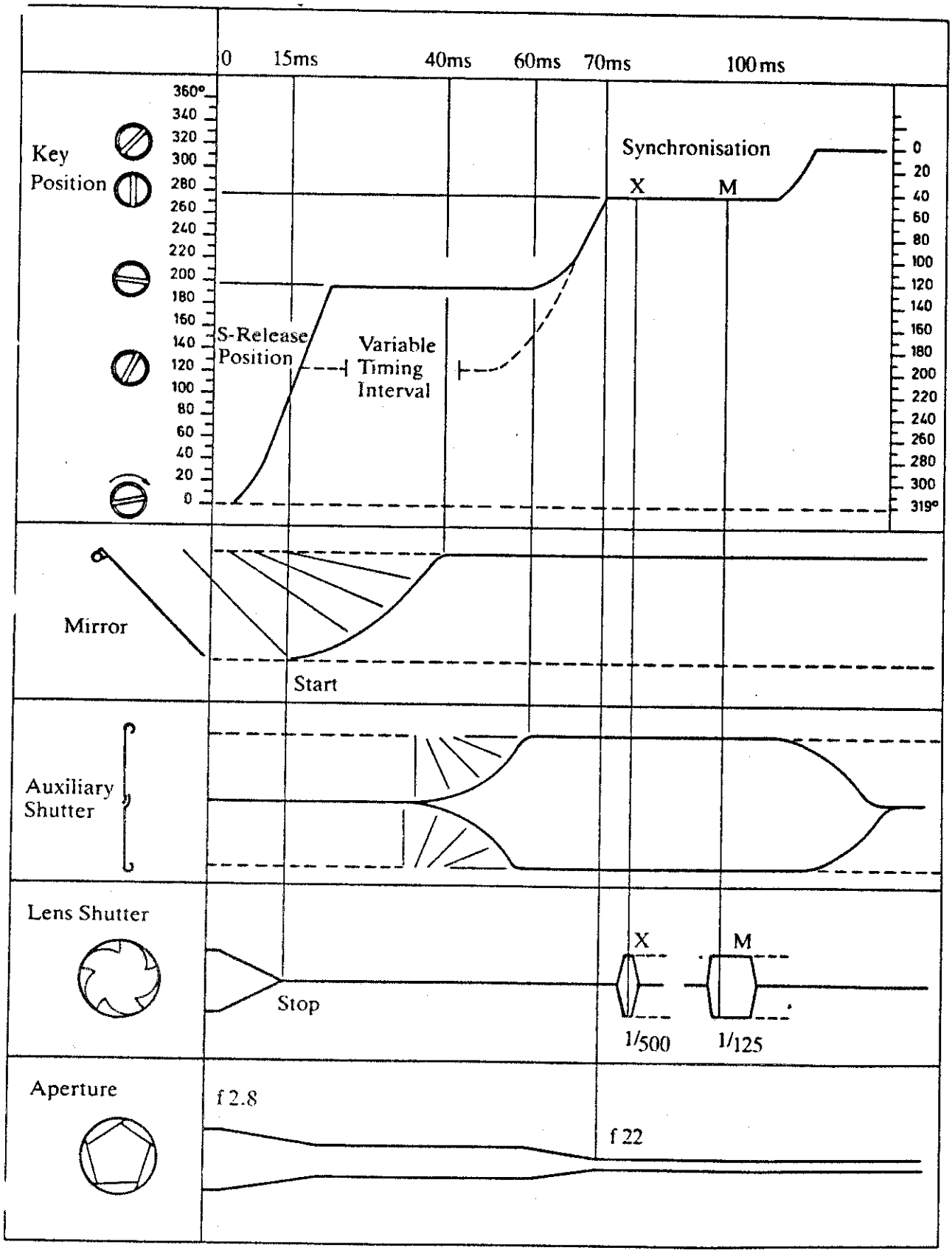
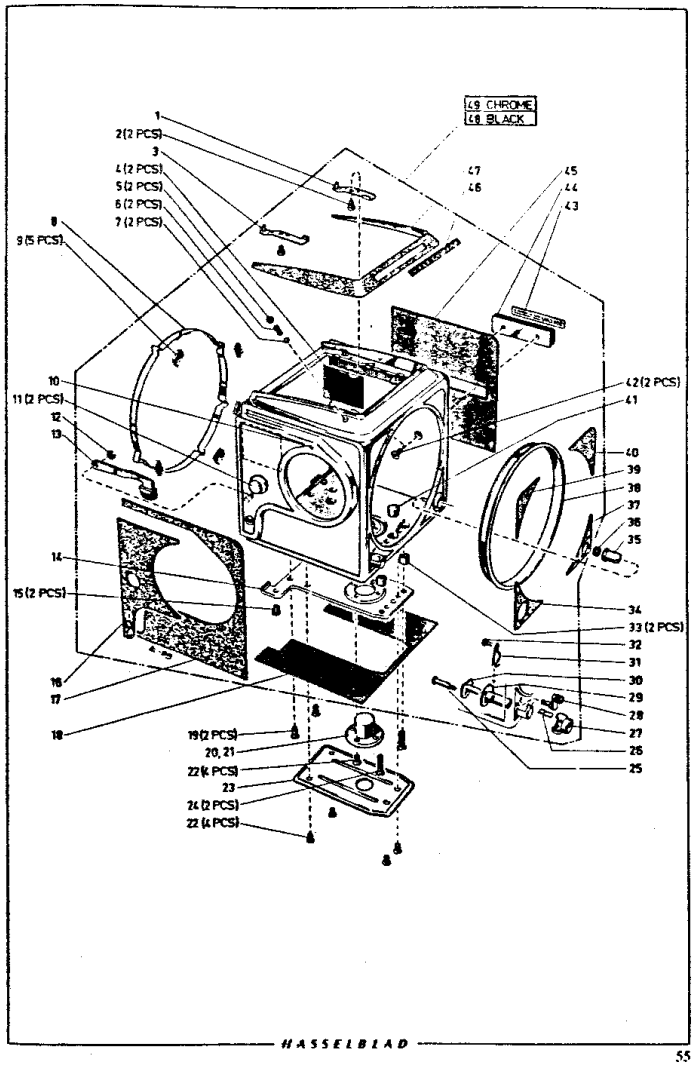

0
15ms
40ms
60ms
70ms
100 ms
Key Position
360°
340
320
300
280
260
240
220
200
180
160
140
120
100
80
60
40
20
0
S-Release Position
Variable Timing Interval
Synchronisation
X
M
0
20
40
60
80
100
120
140
160
180
200
220
240
260
280
300
319°
Mirror
Start
Auxiliary Shutter
Lens Shutter
Stop
X
M
1/500
1/125
Aperture
f 2.8
f 22

Fig. 91

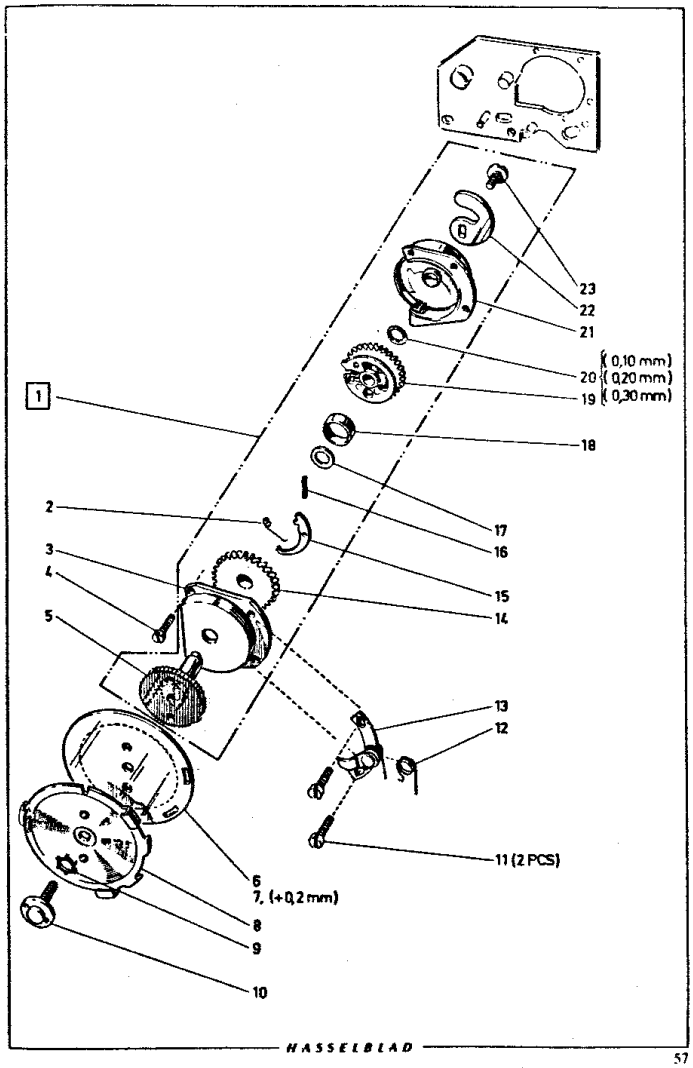
Shell

Pos No.	Spare Part No.	Description	Pcs	Remark
1	13907	Holder, left	1	
2	835001	Pin	2	
3	13906	Holder, right	1	
4	22514	Reflection damper	2	(Only in chrome-shell)
5	12978	Plate	2	
6	815604	Pressure spring	2	
7	809120	Steel ball	2	
8	22384	Locking ring	1	
9	13315	Foam plastic pad	5	
10	103536	Index	1	
11	13466	Strap button	2	
12	817112	Clip	1	
13	22385	Quick release arm	1	
14	103327	Magazine support	1	
15	831502	Pin	2	
16	103503	Leather	1	
17	103504	Leather	1	
18	103506	Leather	1	
19	824701	Screw	2	
20	103342	Tripod socket	1	(Standard 3/8")
21	103346	Tripod socket	1	(Optional 1/4")
22	823735	Screw	8	
23	103349	Slide	1	
24	823781	Screw	2	
25	13137	Screw	1	
26	13418	Plate spring	1	
27	20948	Socket	1	
28	13417	T-arm	1	
29	13134	Release button	1	
30	22367	Buffer	1	
31	816759	Torsion spring	1	
32	821206	Screw	1	
33	810620	Spacer	2	
34	103509	Leather	1	
35	13139	Lens release button	1	
36	22353	Rubber buffer (3mm)	1	22354 = 4mm
37	103510	Leather	1	
38	22366	Front ring	1	
39	103507	Leather	1	
40	103508	Leather	1	
41	103458	Screw	1	
42	823640	Screw	2	
43	14188	Name plate	1	
44	103529	Accessory rail	1	
45	103592	Leather	1	
46	103527	Name plate	1	
47	103511	Leather	1	
48	40308	Shell, complete, black	1	
49	40309	Shell, complete, chrome	1	



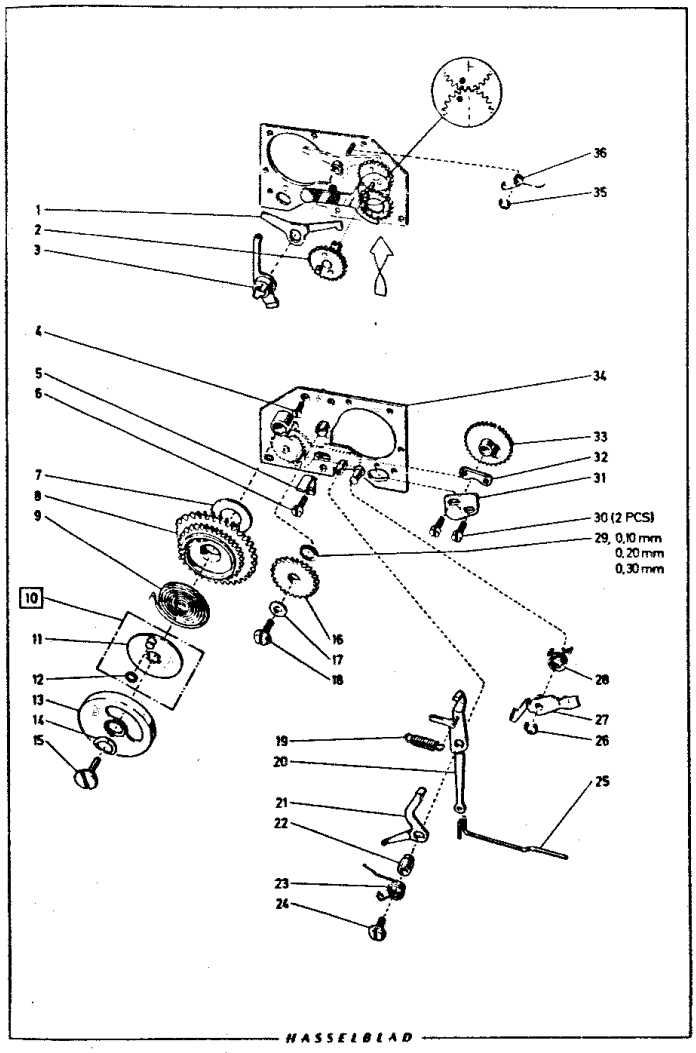
Gear Housing

Pos No.	Spare Part No.	Description	Pcs	Remark
1	30324	Gear housing, complete	1	
2	816504	Spring	1	
3	30304	Gear housing, top	1	
4	820020	Screw	1	
5	20924	Ratchet wheel	1	
6	13360	Shim	1	
7	13360-1	Shim	1	(+ 0.2mm for adjustment)
8	13163	Bayonet plate	1	
9	13436	Locking washer	1	
10	821806	Screw	1	
11	820022	Screw	2	
12	816507	Torsion spring	1	
13	13170	Adjustable pawl	1	
14	13169	Gear	1	
15	20919	Hook	1	
16	812106	Cylinder pin	1	
17	810826	Washer	1	
18	810938	Locking ring	1	
19	13509	Stop gear	1	
20	810826	Washer (0.10mm)	1	(810827 = 0.20mm)
21	13157	Gear housing, bottom	1	(810828 = 0.30mm)
22	22355	Mirror cam	1	
23	821033	Screw	1	



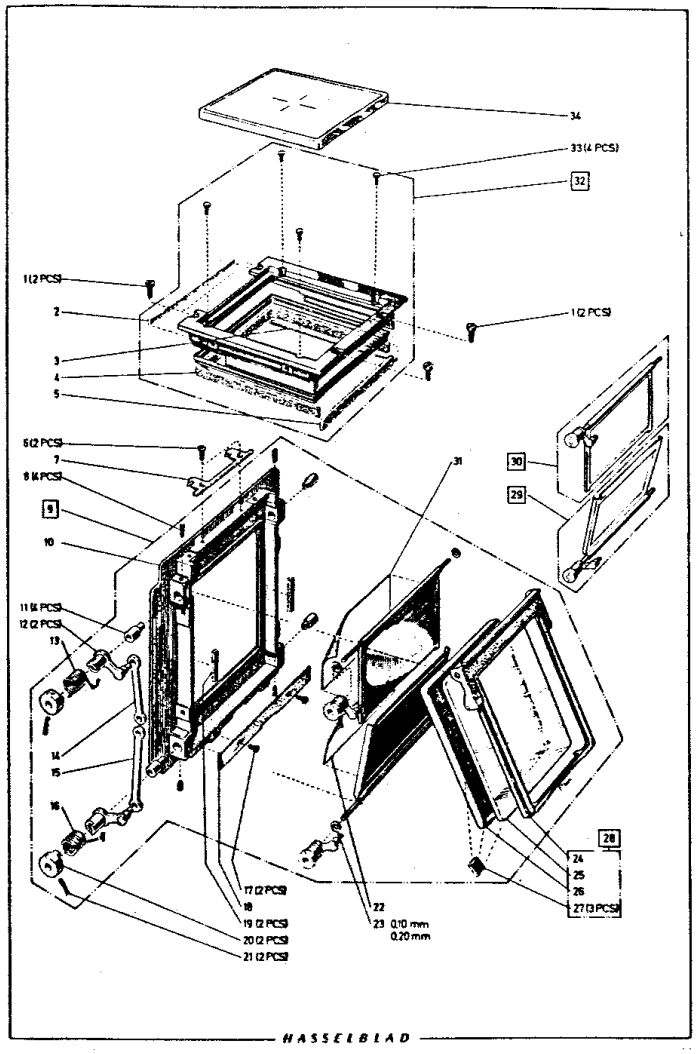
Mechanism Plate

Pos No.	Spare Part No.	Description	Pcs	Remark
1	20912	Stop bar	1	
2	13182	Gear with cam	1	
3	22436	Aux. shutter stop	1	
4	823015	Screw	1	
5	13432	Stop angle	1	
6	821017	Screw	1	
7	810932	Washer	1	
8	13359-1	Gear	1	
9	20968-1	Coil spring	1	
10	14280	Lid, complete	1	
11	14279	Lid	1	
12	14278	O-ring	1	
13	22287	Damping ring	1	
14	810836	Washer	1	
15	822605	Screw	1	
16	13112	Gear	1	
17	810532	Washer	1	
18	821631	Screw1		
19	814826	Draw spring	1	
20	13357	Release arm	1	
21	21167	S-arm	1	
22	840701	Hub	1	
23	816914	Torsion spring	1	
24	821032	Screw	1	
25	20953	Push rod	1	
26	817119	Clip	1	
27	13355	Stop lever	1	
28	816752	Torsion spring	1	
29	810826	Washer (0.10mm)	1	810827 (0.2mm) 810828 (0,30mm)
30	820016	Screw	2	
31	13171	Bearing bracket	1	
32	13116	Nut	1	
33	13167	Gear	1	
34	21125-1	Mechanism plate	1	
35	817112	Clip	1	
36	816802	Torsion spring	1	



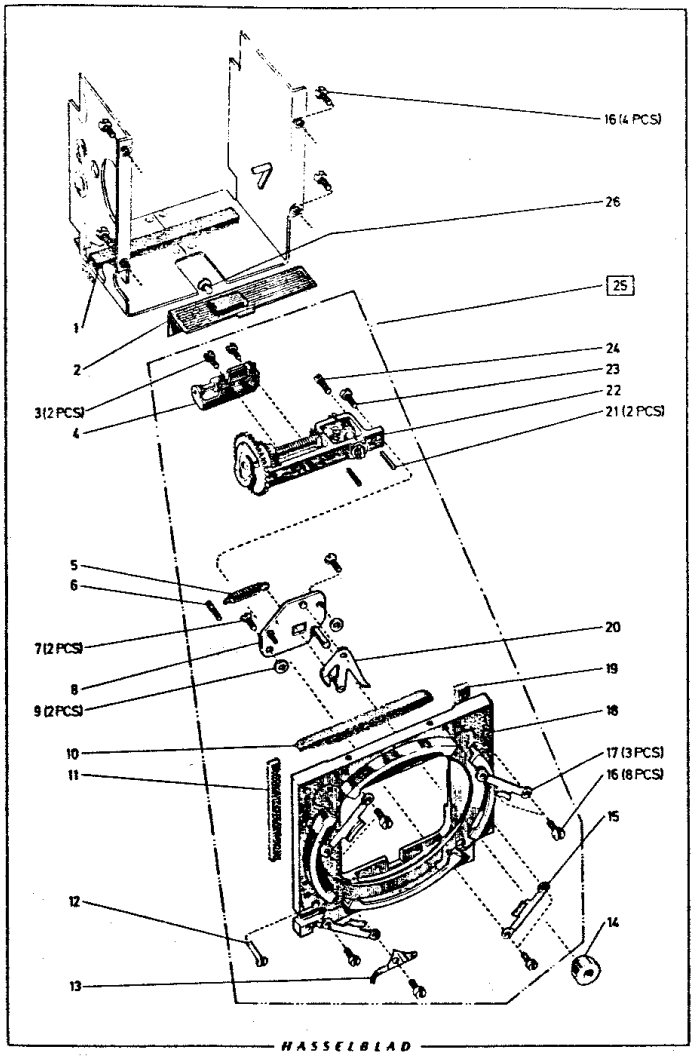
Rear Plate

Pos No.	Spare Part No.	Description	Pcs	Remark
1	821017	Screw	4	
2	22429	Foam plastic strip	1	
3	22429	Foam plastic strip	1	
4	13211	Foam plastic strip	1	
5	13351	Foam plastic strip	1	
6	823640	Screw	2	
7	22423	Magazine hook	1	
8	825060	Screw	4	
9	GR-30519	Rear plate, complete	1	Please state ser. No.
10	GR-40237	Rear plate	1	
11	840514	Bushing	4	
12	13185	Lever	2	
13	816805	Torsion spring	1	
14	13100	Connecting rod, upper	1	
15	13101	Connecting rod, lower	1	
16	816804	Torsion spring	1	
17	821203	Screw	2	
18	13125	Light trap	1	
19	13397	Foam plastic strip	2	
20	13110	Driving disc	2	
21	811108	Pin	2	
22	22420	Reflection protector	1	
23	810503	Washer (0.10mm)	4	810505 (0,20mm) for adjustment
24	20956	Frame for mirror	1	
25	10854	Mirror	1	
26	20901	Mirror protection	1	
27	13141	Foam plastic pad	3	
28	20958	Mirror, complete	1	
29	90712	Bottom flap, complete	1	
30	90711	Top flap, complete	1	
31	22419	Reflection protector	1	
32	21611	Frame, complete	1	
33	21606	Screw	4	
34	–	Standard focusing screen *	1	Sales Code No. 42161



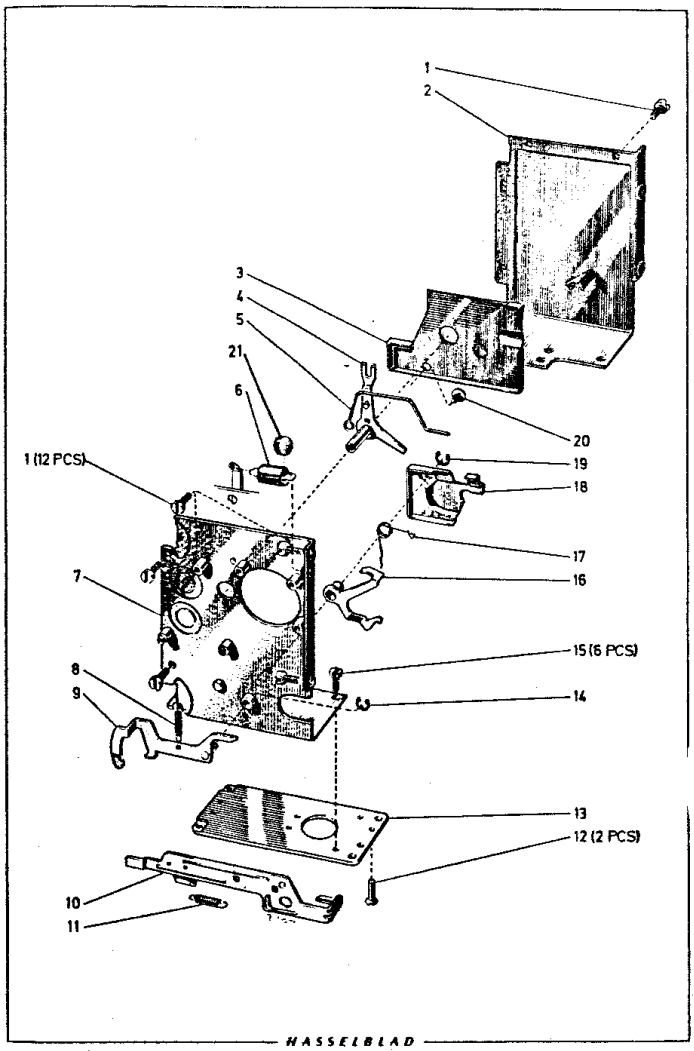
Front Bayonet Plate

Pos No.	Spare Part No.	Description	Pcs	Remark
1	22424	Buffer	1	
2	22341	Cover	1	
3	820014	Screw	2	
4	30386	Governor	1	
5	814754	Draw spring	1	
6	822061	Screw	1	
7	823015	Screw	2	
8	13904	Mounting plate1		
9	810409	Washer	2	
10	22422	Foam plastic strip	1	
11	13213	Foam plastic strip	1	
12	823019	Screw	1	
13	21096	Plate spring	1	
14	13140	Teflon button	1	
15	13146	Bayonet flange	1	
16	820015	Screw	8	
17	13118	Bayonet flange	3	
18	22167	Bayonet front plate	1	
19	13212	Foam plastic strip	1	
20	13164	Lens catch	1	
21	812202	Pin	2	
22	30303	Front gear	1	
23	820018	Screw	1	
24	821009	Screw	1	
25	30696	Bayonet front plate, complete	1	
26	821031	Screw	1	



Right and Left Wall

Pos No.	Spare Part No.	Description	Pcs	Remark
1	820015	Screw	12	
2	20959	Inner wall, left complete	1	
3	21148	Cover	1	
4	13362	Mirror actuating lever	1	
5	13280	Lens lock	1	
6	22532	Draw spring	1	
7	21095	Inner wall, right	1	
8	814603	Draw spring	1	
9	13220	Signal	1	
10	30375	Release bar	1	
11	814512	Draw spring	1	
12	823655	Screw	2	
13	30686	Bottom plate	1	
14	817119	Clip	1	
15	820014	Screw	6	
16	13356-1	Mirror catch	1	
17	816706	Torsion spring	1	
18	21142	Cover	1	
19	817115	Clip	1	
20	821031	Screw	1	
21	22532	Rubber plug	1	



Pcs	Part No.	Description	Price (each)	Next assy.	Remark
3	13118	Bayonet flange		30350	
1	13140	Teflon button		50109	
1	13142	Locking pin		30350	
1	13146	Bayonet flange		30350	
1	13164	Lens catch		30350	
1	20946	Cover		50109	
1	20962	Locking mechanism		30350	
1	30345	Front gear mechanism	×	30350	SVL No. 16/64
1	30350	Front plate, complete	×	50109	SVL No. 16/64
1	40154	Front plate	×	30350	SVL No. 2/60
1	40160	Camera body, complete	×	—	
1	50109	Camera body, assy.	×	40160	
1	AS-113	Screw		30350	
1	AS-114	Screw		30350	
1	CP-1,2×6,1	Cylinder pin		30345	
9	CS-1,7×3,5	Screw		30350	
4	CS-1,7×3,5	Screw		50109	
2	D-1,8×3×1,10	Washer		30350	
2	DF-89	Draw spring		30350	
2	FS-1,7×4	Screw		30350	
1	FS-1,7×7	Screw		30350	
1	SCS-1,7×2,2	Screw		50109	

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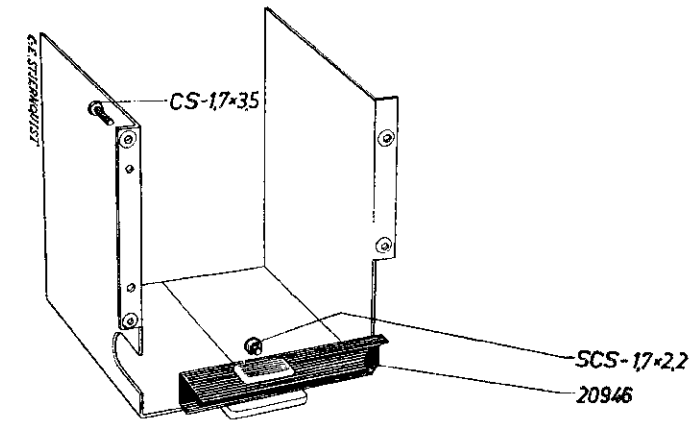

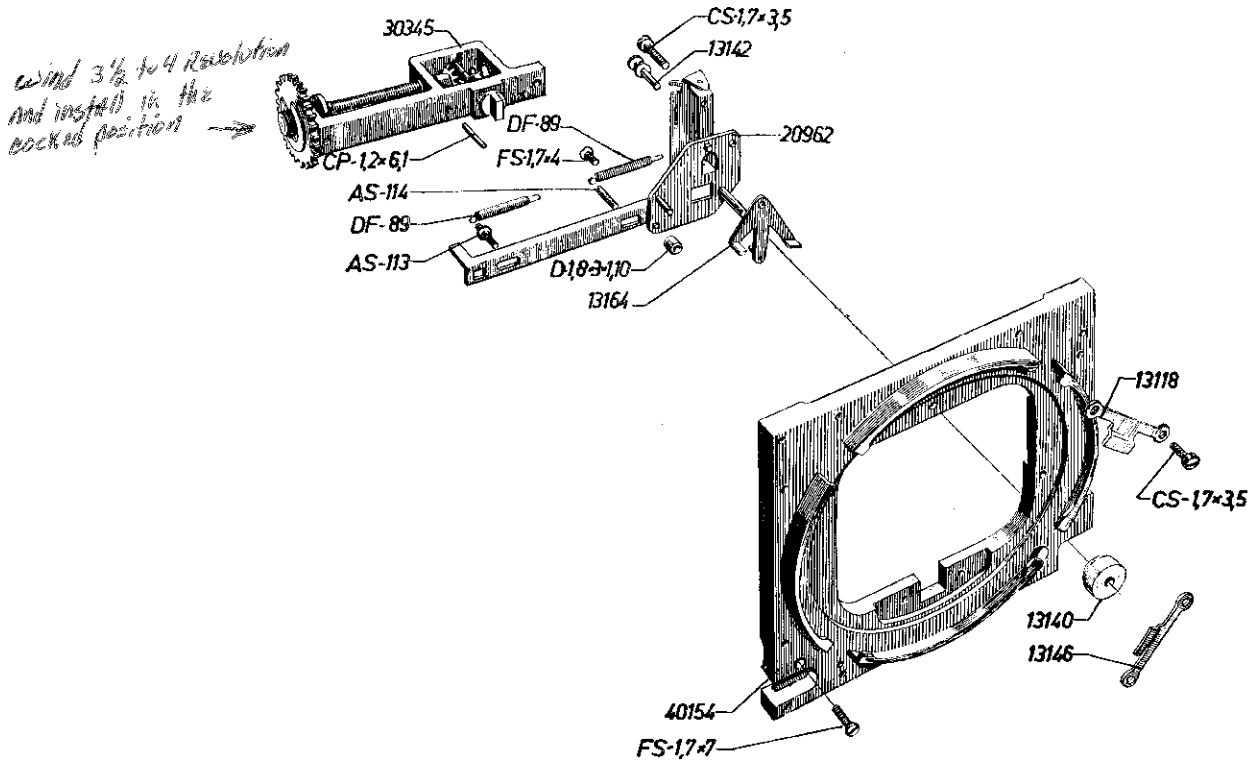

Pcs	Part No.	Description	Price (each)	Next assy.	Remark
1	12453	Cable holder		50109	
1	13122	Nut		50109	SVL No. 4/60; 1/63
1	13124	Screw		13173	SVL No. 4/60; 1/63
1	13158	Signal		50109	
1	13159	Release arm		50109	
1	13162	Mirror actuating arm		50109	
1	13173	Pump, complete		50109	
1	13174	Pumphousing	×	13173	SVL No. 4/60; 1/63
1	13175	Pumparm		50109	SVL No. 4/60
1	13191	Mirror catch		50109	
1	20930	Piston	×	13173	SVL No. 4/60; 1/63
1	20941	Cover		50109	
1	20942	Cover		50109	
1	20959	Inner wall, left complete		50109	
1	20960	Inner wall, right		50109	
1	30308	Bottom plate		50109	
1	40160	Camera body, complete	×	—	
1	50109	Camera body, assy.	×	40160	
6	CS-1,7×3	Screw		50109	SVL No. 26/69
12	CS-1,7×3,5	Screw		50109	
1	DF-90	Draw spring		50109	
1	RY-1,5	Clip		50109	
2	RY-1,9	Clip		50109	
1	SCS-1,7×2,2	Screw		50109	
1	SCS-1,7×3,5	Screw		50109	
1	VF-86	Torsion spring		50109	
1	VF-92	Torsion spring		50109	SVL No. 4/60; 1/63
1	VF-93	Torsion spring		50109	
1	VF-95	Torsion spring		50109	

See also page 8

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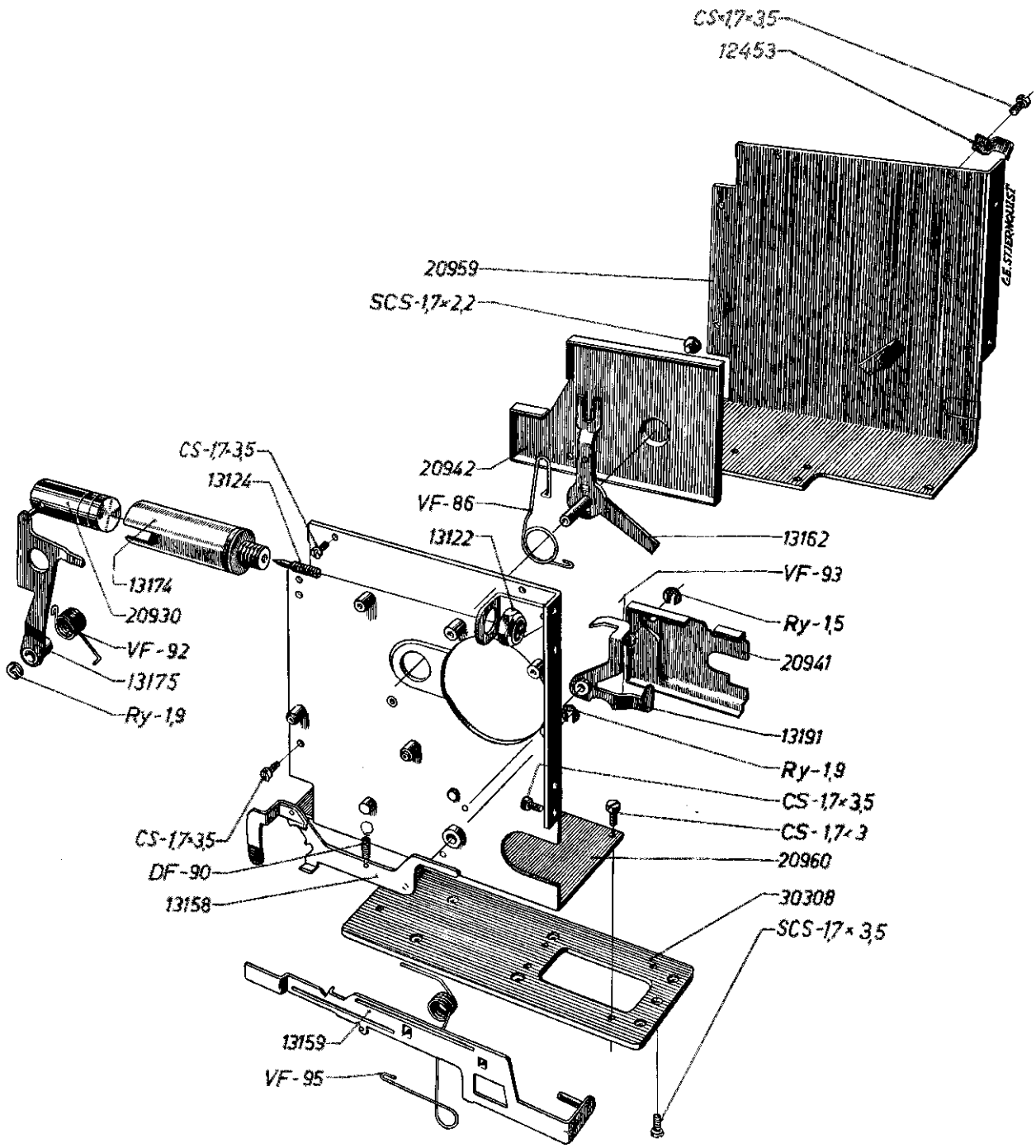

Pcs	Part No.	Description	Price (each)	Next assy.	Remark
1	12453	Cable holder		50109	
1	13122	Nut		50109	SVL No. 4/60; 1/63
1	13124	Screw		13173	SVL No. 4/60; 1/63
1	13162	Mirror actuating arm		50109	
1	13173	Pump, complete		50109	
1	13174	Pumphousing	×	13173	SVL No. 4/60; 1/63
1	13175	Pump arm		50109	SVL No. 4/60
1	13191	Mirror catch		50109	
1	13220	Signal		50109	
1	13221	Release arm		50109	
1	20930	Piston	×	13173	SVL No. 4/60; 1/63
1	20941	Cover		50109	
1	20942	Cover		50109	
1	20959	Inner wall, left, complete		50109	
1	20960	Inner wall, right		50109	
1	30308	Bottom plate		50109	
1	40160	Camera body, complete	×	—	
1	50109	Camera body, assy.	×	40160	
6	CS-1,7×3	Screw		50109	
12	CS-1,7×3,5	Screw		50109	
1	DF-90	Draw spring		50109	
1	RY-1,5	Clip		50109	
2	RY-1,9	Clip		50109	
1	SCS-1,7×2,2	Screw		50109	
1	SCS-1,7×3,5	Screw		50109	
1	VF-86	Torsion spring		50109	
1	VF-92	Torsion spring		50109	SVL No. 4/60; 1/63
1	VF-93	Torsion spring		50109	
1	VF-95	Torsion spring		50109	

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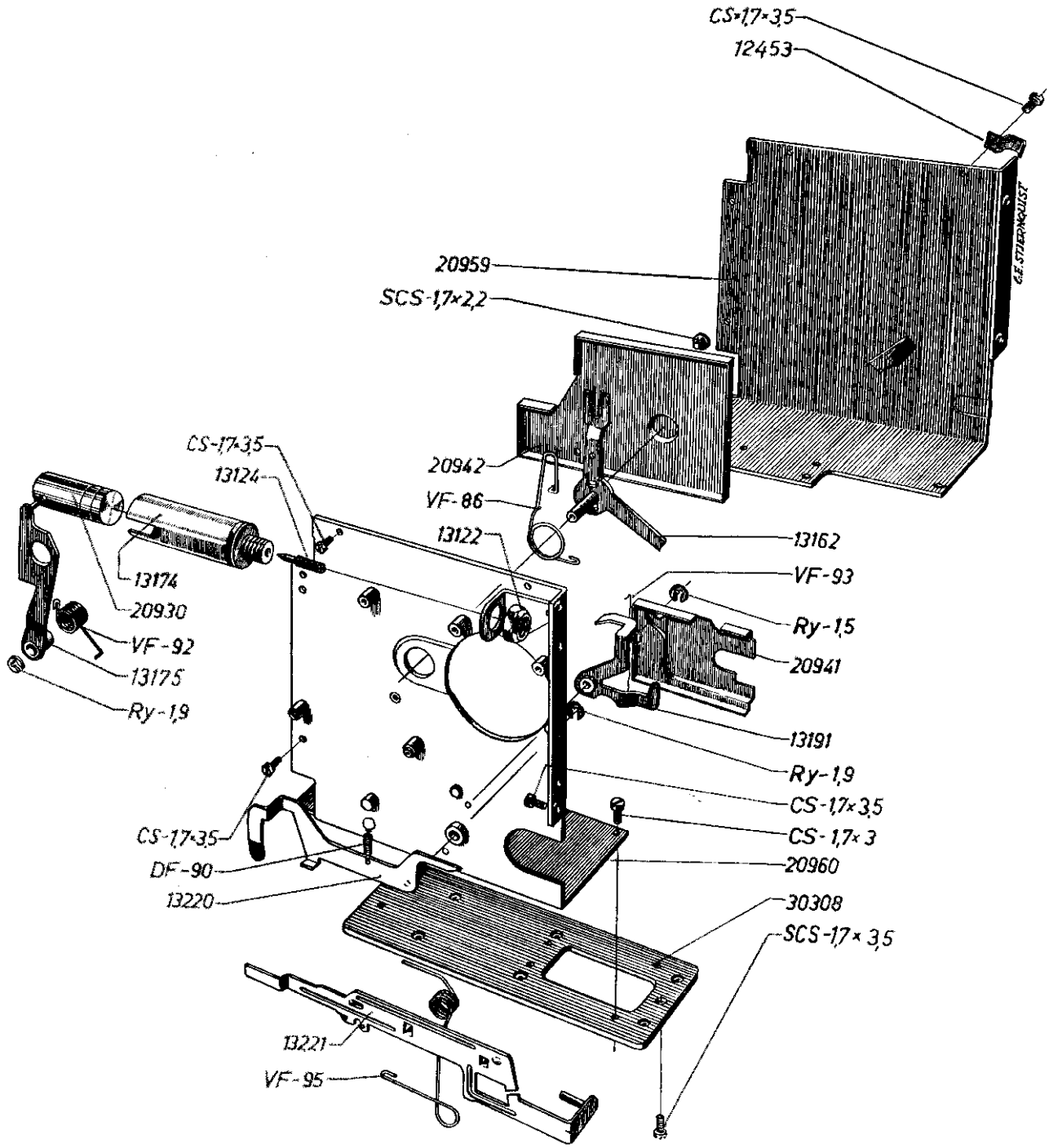

Pcs	Part No.	Description	Price (each)	Next assy.	Remark
1	12492	Window		30323	
2	12978	Plate		30323	
1	13134	Release button		30323	
1	13135	Buffer		30323	
1	13137	Screw		30323	
1	13138	Bushing		30323	
1	13139	Lens release button		40180	
1	13145	Nylon ring		30323	
1	13154	Name plate		13161	
1	13161	Accessory shoe, complete		30323	
1	13190	Name plate		30323	
1	13193	Cable attachment, complete		30323	
4	13315	Foam plastic pad		30323	
1	13417	T-arm		30323	
1	13418	Plate spring		30323	
2	13444	Magazine support		30323	SVL No. 7/63; 19/71
2	13466	Strap button		30323	SVL No. 3/66
1	20905	Accessory shoe		13161	
1	20936	Quick release lever		30323	
1	20939	Front ring		30323	
1	20948	Socket		30323	
1	20949	Bushing		30323	
1	20952	Locking ring		30323	
1	20970	Leather		30323	
1	20971	Leather		30323	
1	20972	Leather		30323	
1	20973	Leather		30323	
1	20974-1	Leather		30323	
1	20975-1	Leather		30323	SVL No. 7/64
1	30315	Slide		40180	
1	30323	Shell, complete		40180	SVL No. 7/64
1	40152	Shell	×	30323	
1	40153	Tripod socket		40180	
1	40180	Camera body, complete	×	—	
2	CN-2×3,7	Rivet		30323	
1	CS-1,2×3,5	Screw		30323	
4	FS-1,7×4	Screw		30323	
6	FS-2,3×8	Screw		40180	
2	KN-2×3	Rivet		30323	
1	RY-1,5	Clip		30323	
1	ST-117	Rivet		30323	
2	TF-59	Pressure spring		30323	
1	VF-112	Torsion spring		30323	
2	ϕ 2 mm	Steel ball		30323	

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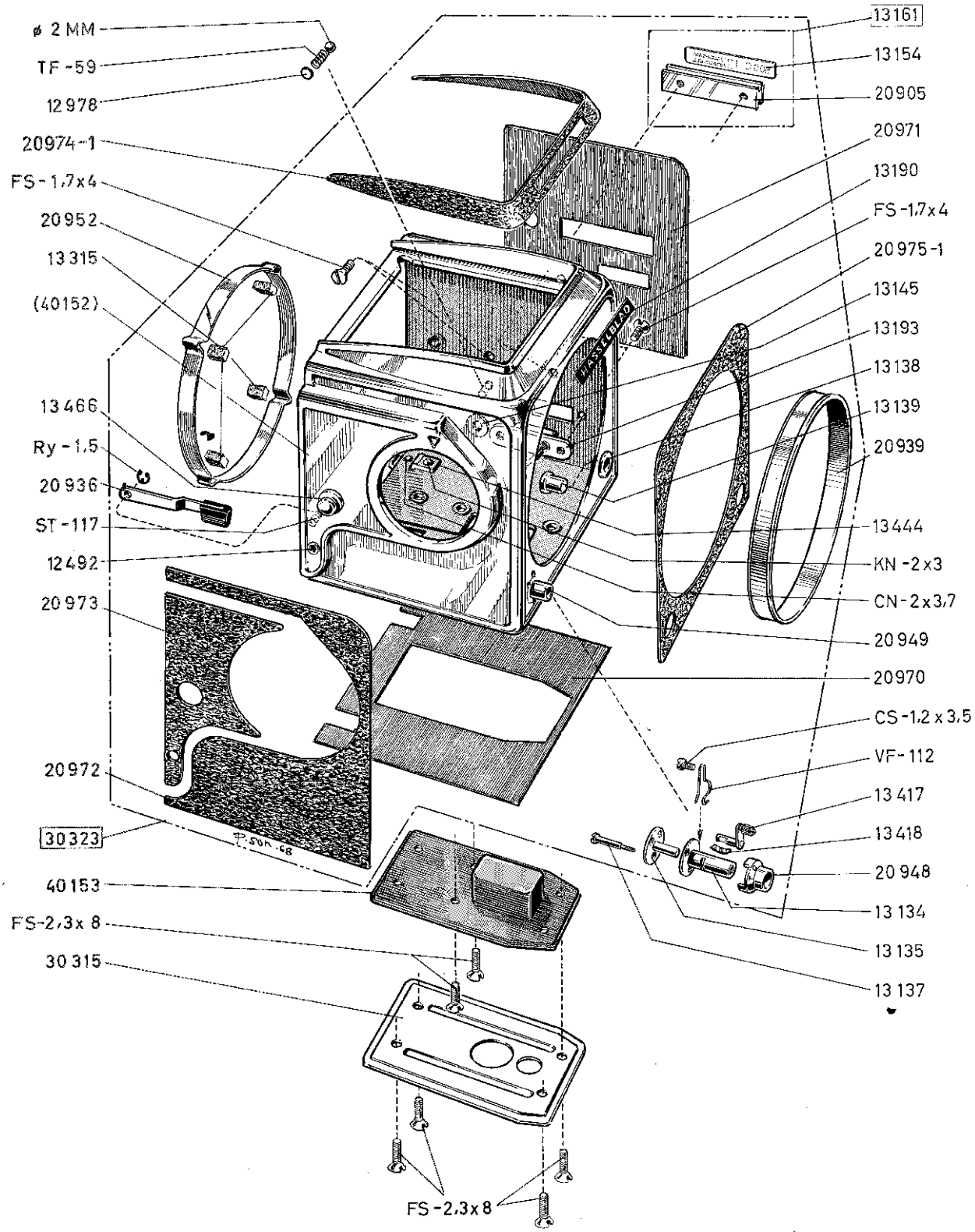

Pcs	Part No.	Description	Price (each)	Next assy.	Remark
1	13157	Gear housing, bottom		30324	
1	13163	Bayonet plate		40180	
1	13169	Gear		30324	
1	13170	Adjustable pawl		50111	
1	13360	Shim		40180	
1	13436	Locking washer		40180	SVL No. 6/64
1	13509	Stop gear		30324	SVL No. 4/63; 2/64
1	20908	Bayonet plate		30316	
1	20919	Hook		30324	
1	20920	Mirror cam		30324	
1	20924	Ratchet wheel		30324	
1	20990	Housing		30316	
1	20991	Rim		30316	
1	20992	Catch		30316	
1	20996	Leather		30316	
1	20999	Lid		30316	
1	30304	Gear housing, top		30324	
1	30316	Knob, complete	▲	40180	Order Code No. 44024
1	30324	Gear housing, complete		50111	
1	40180	Camera body, complete	×	—	
1	50111	Camera body, assy.	×	40180	
1	CP-1×7,8	Cylinder pin		30324	
1	CS-1,7×6	Screw		50111	
2	CS-1,7×7	Screw		50111	
1	D-4,5×7×0,10	Washer		30324	
1	D-4,5×7×A	Washer		30324	A=0,10; 0,20; 0,30 mm
1	D-8×8,5×2,2	Washer		30324	
2	FS-2×7	Screw		30316	
1	SCS-1,7×3,2	Screw		30324	
1	SCS-3×5,5	Screw		40180	
6	SFS-2×6	Screw		30316	
1	TF-63	Pressure spring		30316	
1	VF-83	Torsion spring		30324	
1	VF-94	Torsion spring		13170	

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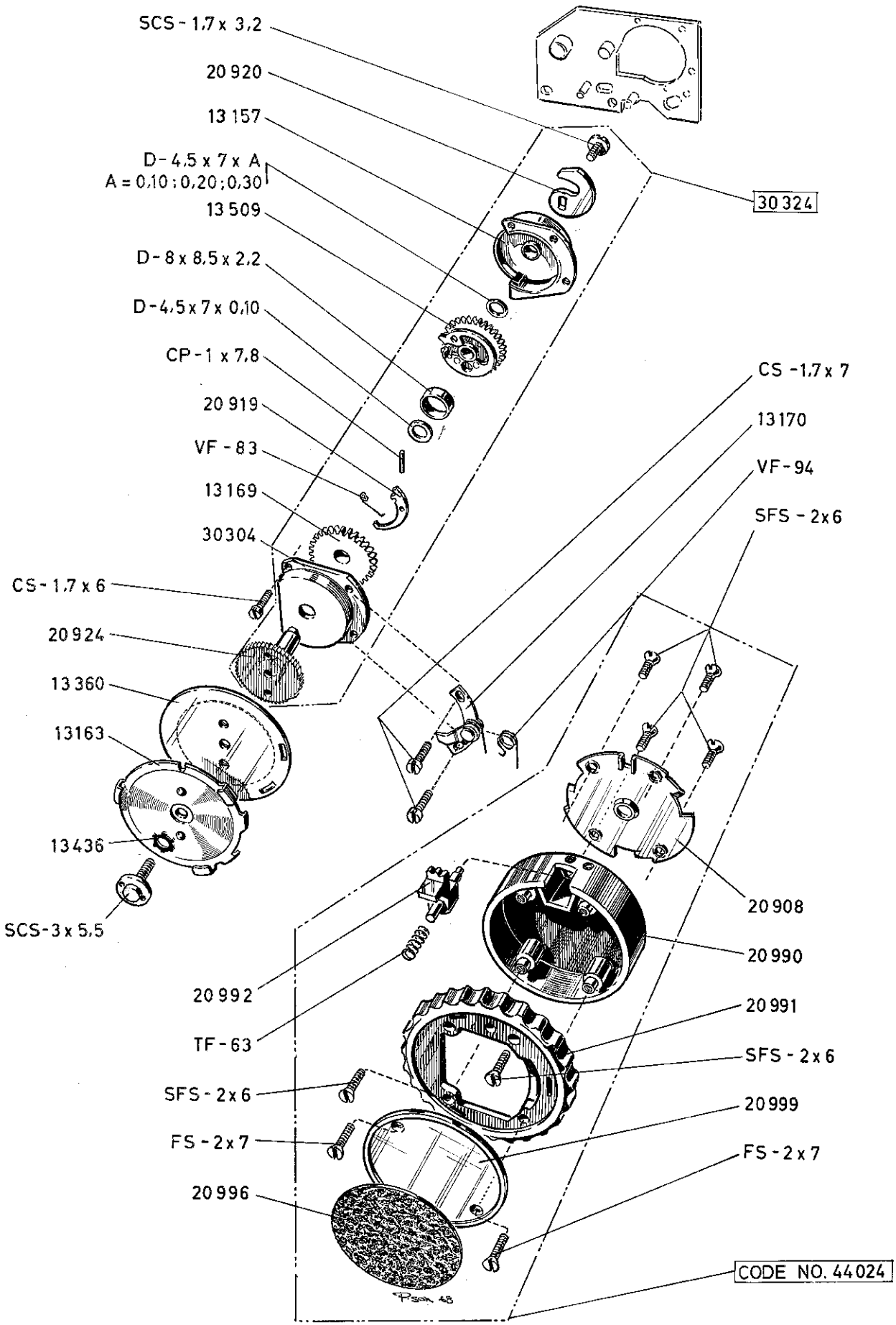

Pcs	Part No.	Description	Price (each)	Next assy.	Remark
1	13108	Hub	×	20961	
1	13112	Gear		50111	
1	13116	Nut		50111	
1	13150	Nylon insulator		21125	
1	13167	Gear		50111	
1	13171	Bearing bracket		50111	
1	13182	Gear with cam		50111	
1	13194	Contact screw		21125	
1	13195	Cable		13193	See page 9 (10)
1	13355	Stop lever		50111	SVL No. 17/67
1	13357	Release arm		50111	
1	13359	Gear		13451	
1	13364	Cover		50111	SVL No. 2/62
1	13402	Gear with cam	×	21125	
1	13405	Coupling	×	21125	SVL No. 1/66
1	13432	Stop angle		50111	
1	13451	Gear, assy.		50111	
1	13500	Damping ring		50111	SVL No. 1/63; 1/71
1	20911	Stop		50111	
1	20912	Bar		50111	
1	20951	Contact spring		50111	
1	20953	Push rod		50111	
1	20961	Mechanism plate	×	21125	
1	20968	Coil spring		13451	
1	21125	Mechanism plate, complete		50111	SVL No. 5/64; 1/66
1	21167	S-arm		50111	SVL No. 1/66
1	21196	Ring	×	13500	
1	21203	Rubber disk		13500	SVL No. 1/63; 1/71
1	21241	Cover		50111	SVL No. 1/63
1	40180	Camera body, complete	×	—	
1	50111	Camera body, assy.	×	40180	
1	AT-345	Pin	×	20961	
1	AT-348	Pin	×	20951	
1	AT-369	Pin	×	21125	
1	AT-392	Pin	×	21125	
2	B6MS-1,7	Nut		21125	SVL No. 5/64
1	CS-1,7×3,5	Screw		50111	
2	CS-1,7×4	Screw		50111	
1	D-1,50×6,0×0,05	Washer	×	21125	SVL No. 5/64
2	D-1,75×3,5×0,30	Washer		50111	
1	D-2×5,5×0,30	Washer		50111	
1	D-4,5×7×0,20	Washer		50111	
1	D-4,5×7×A	Washer		50111	A=0,10; 0,20; 0,30 mm
1	D-7,1×15×0,4	Washer		50111	
1	DF-99	Draw spring		50111	SVL No. 1/66
1	FS-1,7×4	Screw		50111	
1	NAV-169	Hub	×	20961	
1	NAV-180	Hub		50111	
1	RY-1,2	Clip		50111	
1	RY-1,9	Clip		50111	

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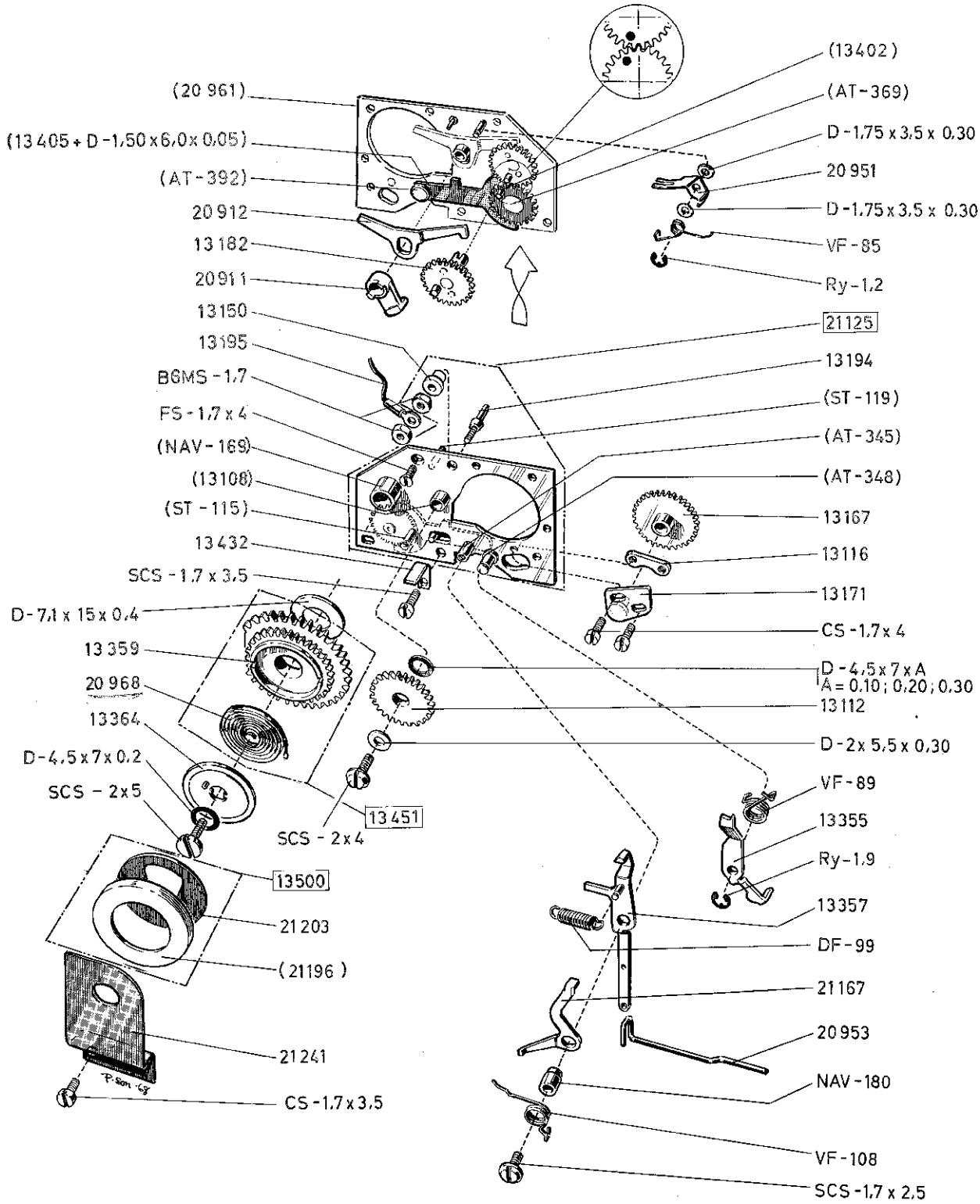
Pcs	Part No.	Description	Price (each)	Next assy.	Remark
1	SCS-1,7×2,5	Screw		50111	
1	SCS-1,7×3,5	Screw		50111	
1	SCS-2×4	Screw		50111	
1	SCS-2×5	Screw		50111	
1	ST-115	Rivet	×	20961	
1	ST-119	Rivet	×	20961	
1	VF-85	Torsion spring		50111	
1	VF-89	Torsion spring		50111	
1	VF-108	Torsion spring		50111	SVL No. 1/66

Serial number CE 38592 – US 106700



Pcs	Part No.	Description	Price (each)	Next assy.	Remark
1	13100	Connecting rod, upper		50111	
1	13101	Connecting rod, lower		50111	
2	13110	Driving disc		90294/295	
1	13125	Light trap		GR-30322	
3	13141	Foam plastic pad		20958	
1	13143	Magazine hook		50111	
1	13155	Top flap	×	90294	SVL No. 20/67
1	13156	Bottom flap	×	90295	SVL No. 20/67
2	13185	Lever		90294/295	
1	13211	Foam plastic strip		20955	
1	13351	Foam plastic strip		20955	
2	13397	Foam plastic strip		GR-30322	
1	20854	Mirror		20958	SVL No. 22/67
1	20901	Mirror protection		20958	
1	20902	Fresnellens		50111	SVL No. 10/61
1	20904	Ground glass		50111	
1	20955	Frame, complete		50111	SVL No. 1/62; 22/67
1	20956	Frame for mirror		20958	
1	20958	Mirror, complete		GR-30322	
1	20976	Plate spring		50111	A=0,15; 0,25 mm
1	30305	Frame, outer	×	20955	
1	30306	Ground glass holder		50111	
1	30312	Frame, inner	×	20955	
1	GR-30322	Rear plate, complete		50111	State serial No.
1	GR-40150	Rear plate		GR-30322	State serial No.
1	40180	Camera body, complete	×	—	
1	50111	Camera body, assy.	×	40180	
1	90294	Top flap		GR-30322	SVL No. 20/67
1	90295	Bottom flap		GR-30322	SVL No. 20/67
2	CS-1,2×2	Screw		GR-30322	SVL No. 7/69
4	CS-1,2×3,5	Screw		50111	SVL No. 2/67
2	D-2×2,8×A	Washer		GR-30322	A=0,1; 0,2 mm
2	FS-1,7×4	Screw		50111	
4	NAV-171	Hub		GR-30322	SVL No. 4/66
2	S-1×6	Pin		GR-30322	
2	SCS-1,7×3,5	Screw		50111	
4	SKSS-1,7×3	Screw		GR-30322	
1	VF-87	Torsion spring		90294/295	
1	VF-88	Torsion spring		90294/295	

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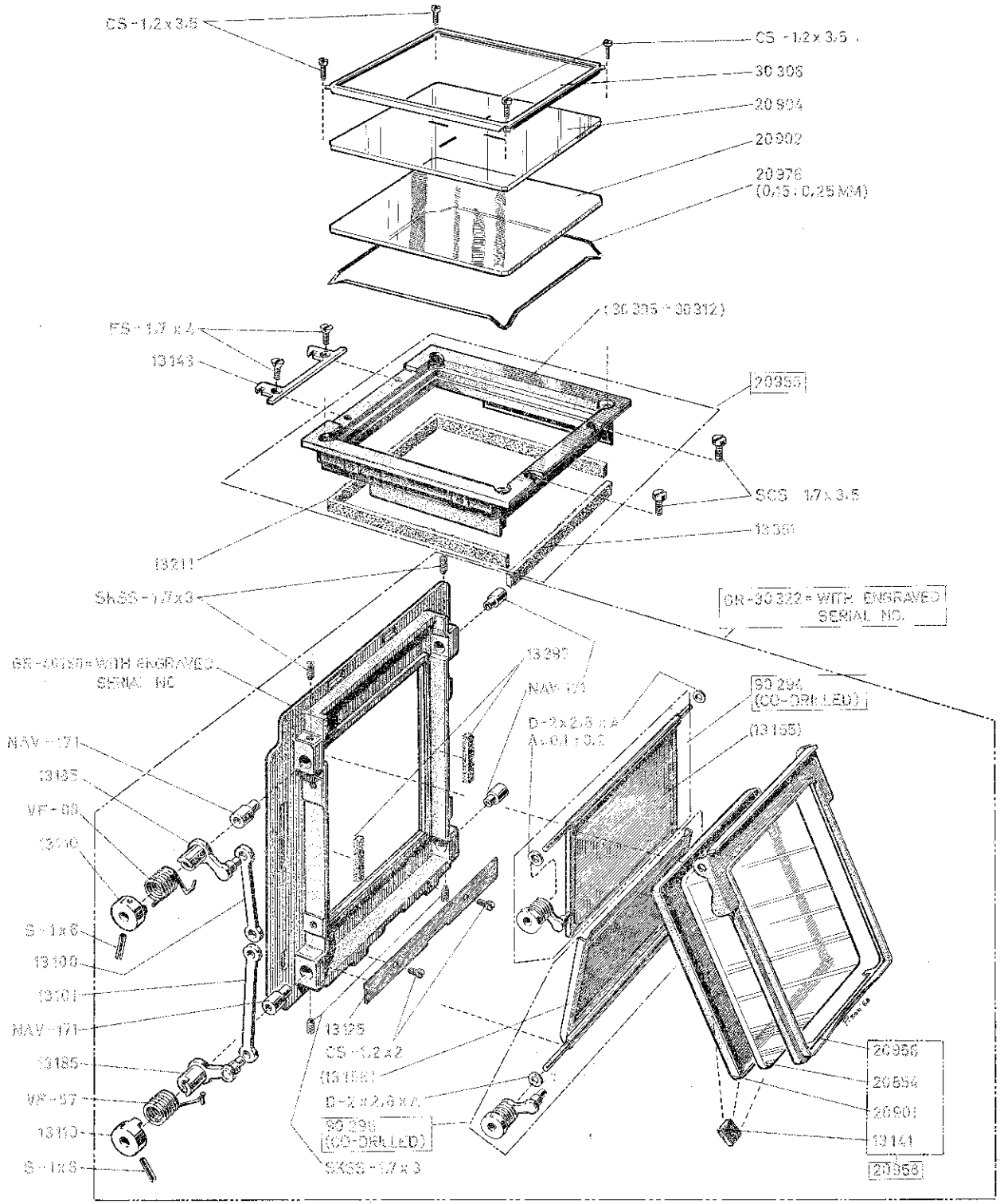
Serial number CE 38592 – US 106700



Pcs	Part No.	Description	Price (each)	Next assy.	Remark
3	13118	Bayonet flange		30376-1	
1	13140	Teflon button		40180	
1	13146	Bayonet flange		30376-1	
1	13164	Lens catch		30376-1	
1	13212	Foam plastic strip		30376-1	
1	13213	Foam plastic strip		30376-1	
1	13214	Foam plastic strip		30376-1	
1	13354	Mounting plate		30376-1	
1	13371	Ring		30383	SVL No. 9/64
1	21096	Plate spring		30376-1	
1	21126-1	Bayonet front plate		30376-1	
1	21141	Cover		40180	
1	30376-1	Bayonet front plate, complete		50111	SVL No. 12/64; 21/67
1	30383	Front gear mechanism		30376-1	SVL No. 21/67; 27/69; 3/71
1	30386	Governor		30376-1	
1	40180	Camera body, complete	×	—	
1	50111	Camera body, assy.	×	40180	
1	AS-114	Screw		30376-1	
2	CP-1,2×6,1	Cylinder pin		30376-1	
2	CS-1,7×3,0	Screw		30376-1	SVL No. 7/69
8	CS-1,7×3,5	Screw		30376-1	
4	CS-1,7×3,5	Screw		50111	
1	CS-1,7×4,5	Screw		30376-1	
2	D-1,8×3×1,10	Washer		30376-1	
1	DF-94	Draw spring		30376-1	
2	FS-1,7×4	Screw		30376-1	
1	FS-1,7×7	Screw		30376-1	
1	SCS-1,7×2,2	Screw		40180	
1	SCS-1,7×4,2	Screw		30383	

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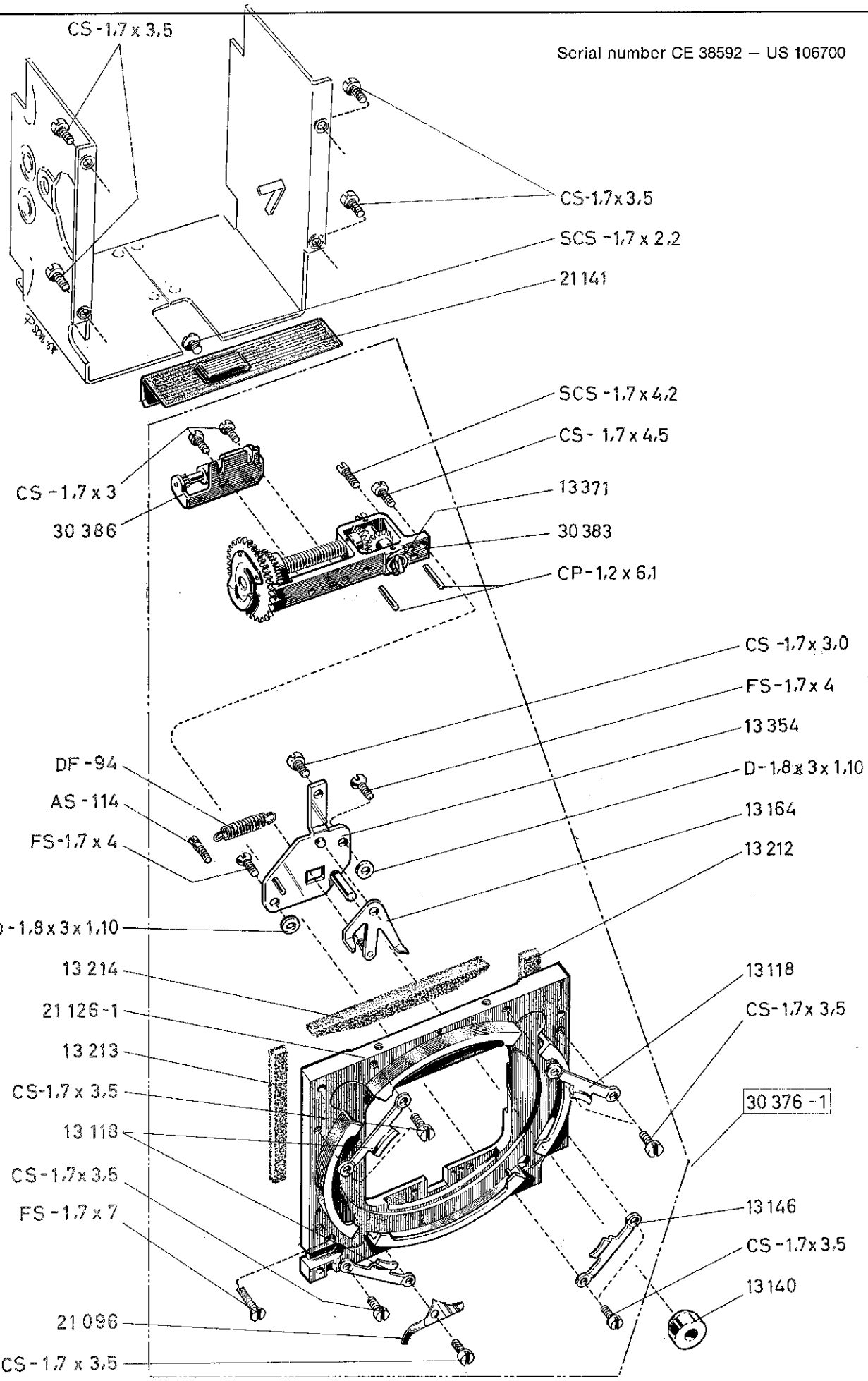
Serial number CE 38592 — US 106700



Pcs	Part No.	Description	Price (each)	Next assy.	Remark
1	12453	Cable holder		50111	
1	13121	Mirror rest		20959	
1	13220	Signal		50111	
1	13280	Lens lock		50111	
1	13352	Mirror catch		50111	SVL No. 2/71
1	13362	Mirror actuating lever		50111	
1	20959	Inner wall, left, assy.		50111	
1	21095	Inner wall, right, assy.		50111	SVL No. 1/67
1	21142	Cover		50111	SVL No. 8/63; 2/71
1	21148	Cover		40180	
1	30308	Bottom plate		50111	
1	30309	Inner wall, left	×	20959	
1	30375	Release arm		50111	
1	40180	Camera body, complete	×	—	
1	50111	Camera body, assy.	×	40180	
1	AT-195	Pin	×	21095	
2	AT-333	Pin	×	21095	
3	AT-341	Pin	×	21095	
1	AT-346	Pin	×	21095	
1	AT-353	Pin	×	21095	
1	AT-359	Pin	×	21095	
6	CS-1,7×3	Screw		50111	SVL No. 26/69
12	CS-1,7×3,5	Screw		50111	4 screws to page No. 13
1	DF-90	Draw spring		50111	
1	DF-97	Draw spring		50111	SVL No. 10/63
1	FS-2,3×5	Screw		50111	SVL No. 12/64
2	KN-1,45×2,20	Rivet		20959	
1	NAV-174	Hub	×	21095	
1	RY-1,5	Clip		50111	
1	RY-1,9	Clip		50111	
1	SCS-1,7×2,2	Screw		40180	
1	ST-96	Rivet	×	21095	
1	ST-121	Rivet		21095	
1	VF-86	Torsion spring		50111	
1	VF-93	Torsion spring		50111	

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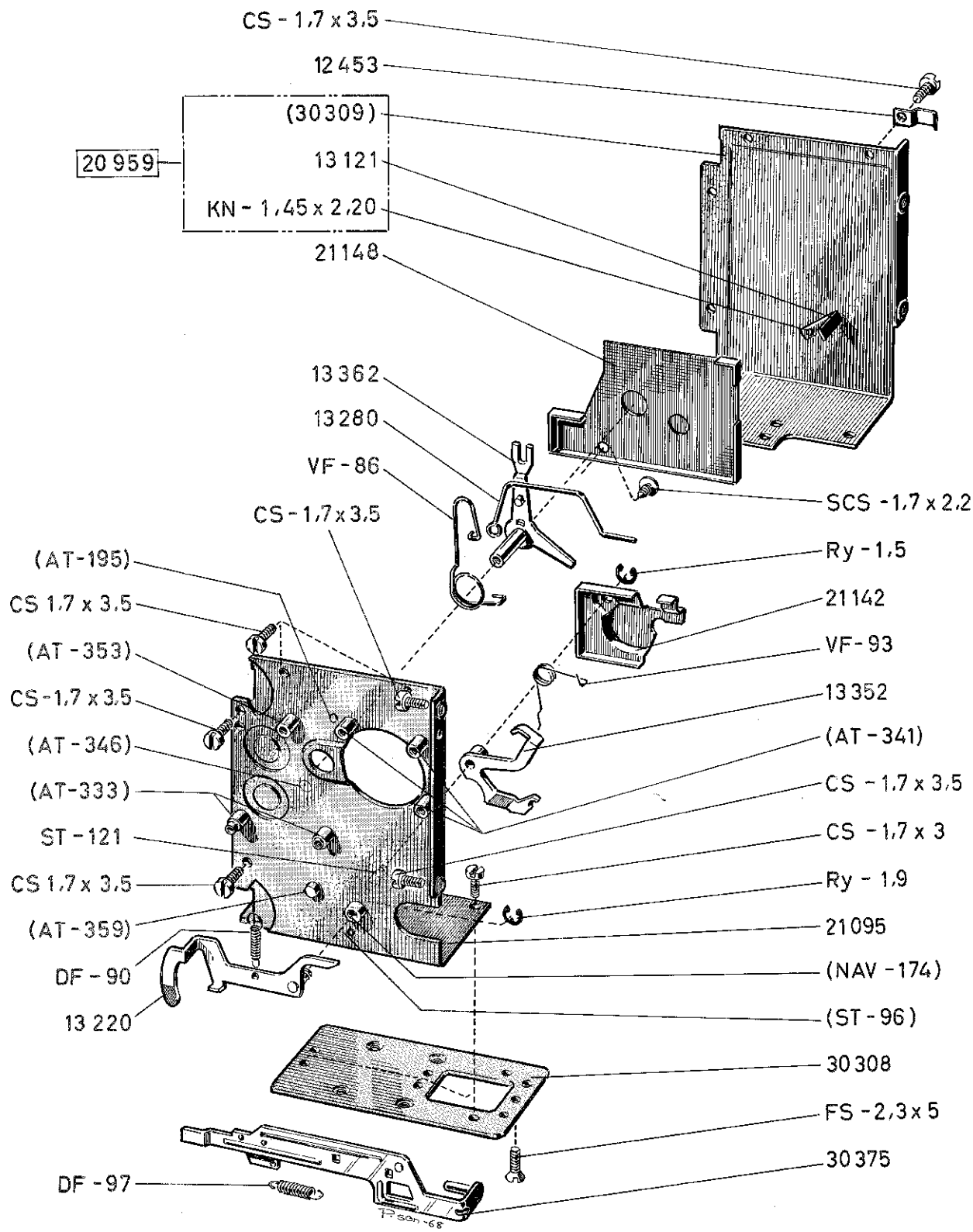
Serial number CE 38592 – US 106700



500C/M

Pcs	Part No.	Description	Price (each)	assy. Next	Remark
1	12492	Window		30520	
2	12978	Plate		30520	
1	13134	Release button		30520	
1	13135	Buffer		30520	
1	13137	Screw		30520	
1	13138	Bushing		30520	
1	13139	Lens release button		40239	
1	13145	Nylon ring		30520	
2	13148	Magazine support		30520	SVL No. 19/71
1	13154	Name plate		13161	
1	13161	Accessory shoe, complete		30520	
1	13190	Name plate		30520	
1	13193	Cable attachment, complete		30520	
4	13315	Foam plastic pad		30520	
1	13417	T-arm		30520	
1	13418	Plate spring		30520	
2	13466	Strap button		30520	
2	13905	Pin		30520	SVL No. 17/71
1	13906	Holder, right		30520	SVL No. 17/71
1	13907	Holder, left		30520	SVL No. 17/71
1	20905	Accessory shoe		13161	
1	20936	Quick release lever		30520	
1	20939	Front ring		30520	
1	20948	Socket		30520	
1	20949	Bushing		30520	
1	20952	Locking ring		30520	
1	20970	Leather		30520	
1	20971	Leather		30520	
1	20972	Leather		30520	
1	20973	Leather		30520	
1	20974-1	Leather		30520	
1	20975-1	Leather		30520	
1	30315	Slide		40239	
1	30520	Shell, complete		40239	SVL No. 17/71
1	40153	Tripod socket		40239	
1	40238	Shell	×	30520	
1	40239	Camera body, complete	×	—	
2	AT-444	Pin		30520	SVL No. 17/71
2	CN-2×3,7	Rivet		30520	
1	CS-1,2×3,5	Screw		30520	
4	FS-1,7×4	Screw		30520	
6	FS-2,3×8	Screw		40239	
2	KN-2×3	Rivet		30520	
2	PSS-2,3×6	Screw		30520	SVL No. 17/71
1	RY-1,5	Clip		30520	
1	ST-117	Rivet		30520	
2	TF-59	Pressure spring		30520	
1	VF-112	Torsion spring		30520	
2	∅ 2 mm	Steel ball		30520	

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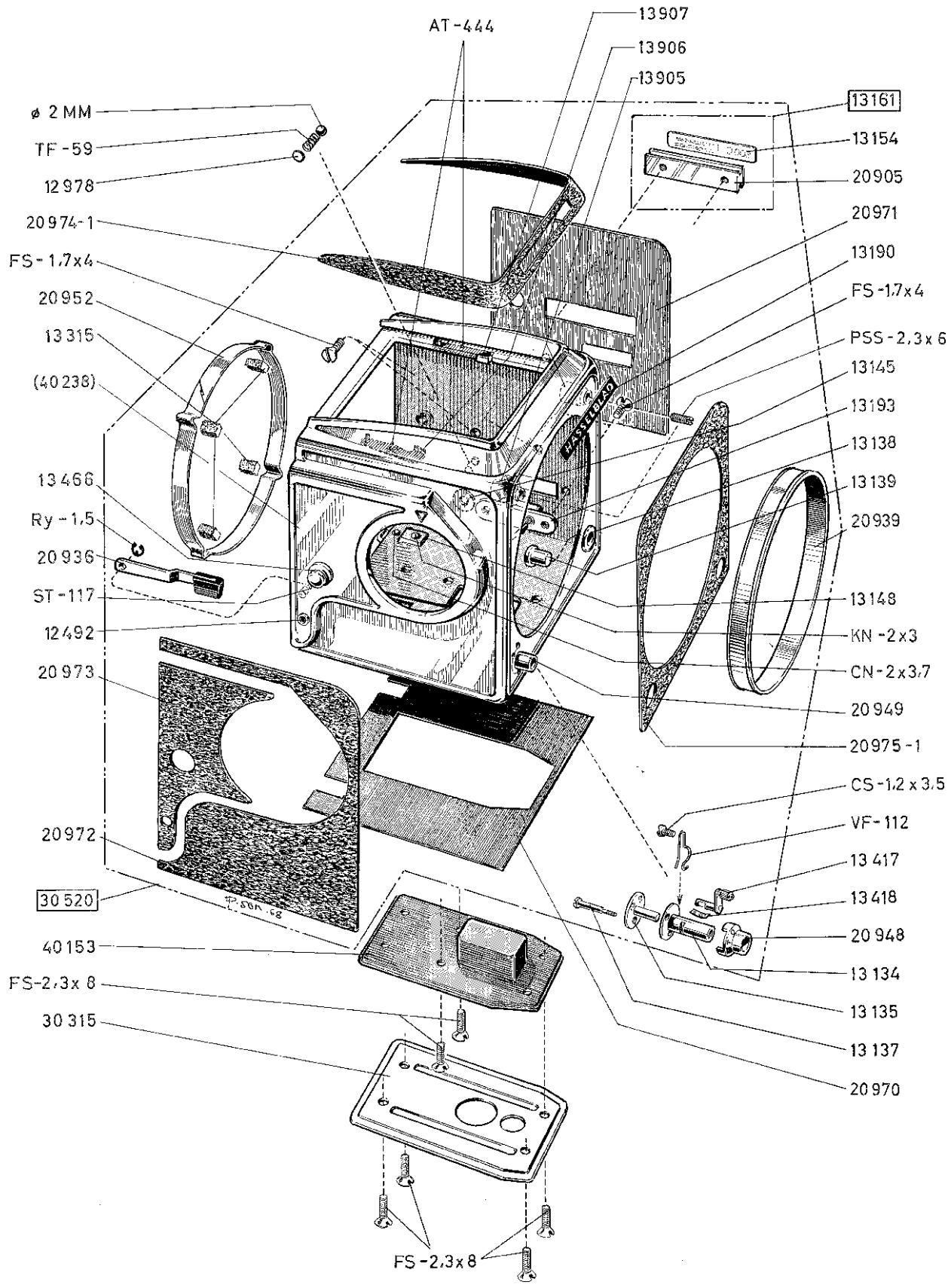
Serial number US 106701 – forwards



500C/M

Pcs	Part No.	Description	Price (each)	Next assy.	Remark
1	13157	Gear housing, bottom		30324	
1	13163	Bayonet plate		40239	
1	13169	Gear		30324	
1	13170	Adjustable pawl		50129	
1	13360	Shim		40239	
1	13436	Locking washer		40239	
1	13509	Stop gear		30324	
1	20908	Bayonet plate		30316	
1	20919	Hook		30324	
1	20920	Mirror cam		30324	
1	20924	Ratchet wheel		30324	
1	20990	Housing		30316	
1	20991	Rim		30316	
1	20992	Catch		30316	
1	20996	Leather		30316	
1	20999	Lid		30316	
1	30304	Gear housing, top		30324	
1	30316	Knob, complete		40239	Order Code No. 44024
1	30324	Gear housing, complete		50129	
1	40239	Camera body, complete	×	—	
1	50129	Camera body, assy.	×	40239	
1	CP-1×7,8	Cylinder pin		30324	
1	CS-1,7×6	Screw		50129	
2	CS-1,7×7	Screw		50129	
1	D-4,5×7×0,10	Washer		30324	
1	D-4,5×7×A	Washer		30324	A=0,10; 0,20; 0,30 mm
1	D-8×8,5×2,2	Washer		30324	
2	FS-2×7	Screw		30316	
1	SCS-1,7×3,2	Screw		30324	
1	SCS-3×5,5	Screw		40239	
6	SFS-2×6	Screw		30316	
1	TF-63	Pressure spring		30316	
1	VF-83	Torsion spring		30324	
1	VF-94	Torsion spring		13170	

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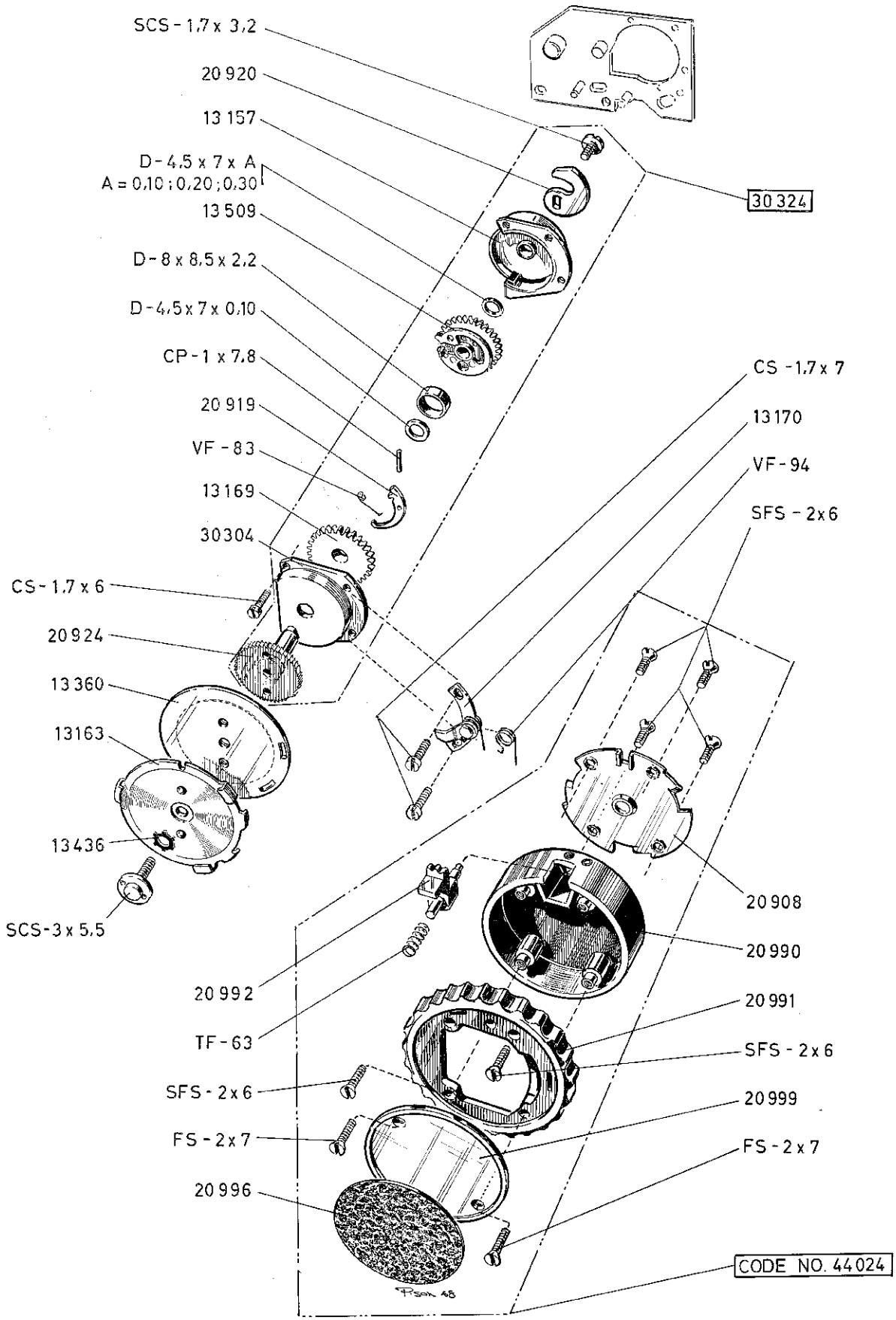
Serial number US 106701 – forwards



500C/M

Pcs	Part No.	Description	Price (each)	Next assy.	Remark
1	13108	Hub	×	20961	
1	13112	Gear		50129	
1	13116	Nut		50129	
1	13150	Nylon insulator		21125	
1	13167	Gear		50129	
1	13171	Bearing bracket		50129	
1	13182	Gear with cam		50129	
1	13194	Contact screw		21125	
1	13195	Cable		13193	
1	13355	Stop lever		50129	
1	13357	Release arm		50129	
1	13359	Gear		13451	
1	13364	Cover		50129	
1	13402	Gear with cam	×	21125	
1	13405	Coupling	×	21125	
1	13432	Stop angle		50129	
1	13451	Gear, assy.		50129	
1	13500	Damping ring		50129	SVL No. 1/71
1	20911	Stop		50129	
1	20912	Bar		50129	
1	20951	Contact spring		50129	
1	20953	Push rod		50129	
1	20961	Mechanism plate	×	21125	
1	20968	Coil spring		13451	
1	21125	Mechanism plate, complete		50129	
1	21167	S-arm		50129	
1	21193	Ring	×	13500	
1	21203	Rubber disk		13500	SVL No. 1/71
1	21241	Cover		50129	
1	40239	Camera body, complete	×	—	
1	50129	Camera body, assy.	×	40239	
1	AT-345	Pin	×	20961	
1	AT-348	Pin	×	20961	
1	AT-369	Pin	×	21125	
1	AT-392	Pin	×	21125	
2	B6MS-1,7	Nut		21125	
1	CS-1,7×3,5	Screw		50129	
2	CS-1,7×4	Screw		50129	
1	D-1,50×6,0×0,05	Washer	×	21125	
2	D-1,75×3,5×0,30	Washer		50129	
1	D-2×5,5×0,30	Washer		50129	
1	D-4,5×7×0,20	Washer		50129	
1	D-4,5×7×A	Washer		50129	A = 0,10; 0,20; 0,30 mm
1	D-7,1×15×0,4	Washer		50129	
1	DF-99	Draw spring		50129	
1	FS-1,7×4	Screw		50129	
1	NAV-169	Hub	×	20961	
1	NAV-180	Hub		50129	
1	RY-1,2	Clip		50129	
1	RY-1,9	Clip		50129	

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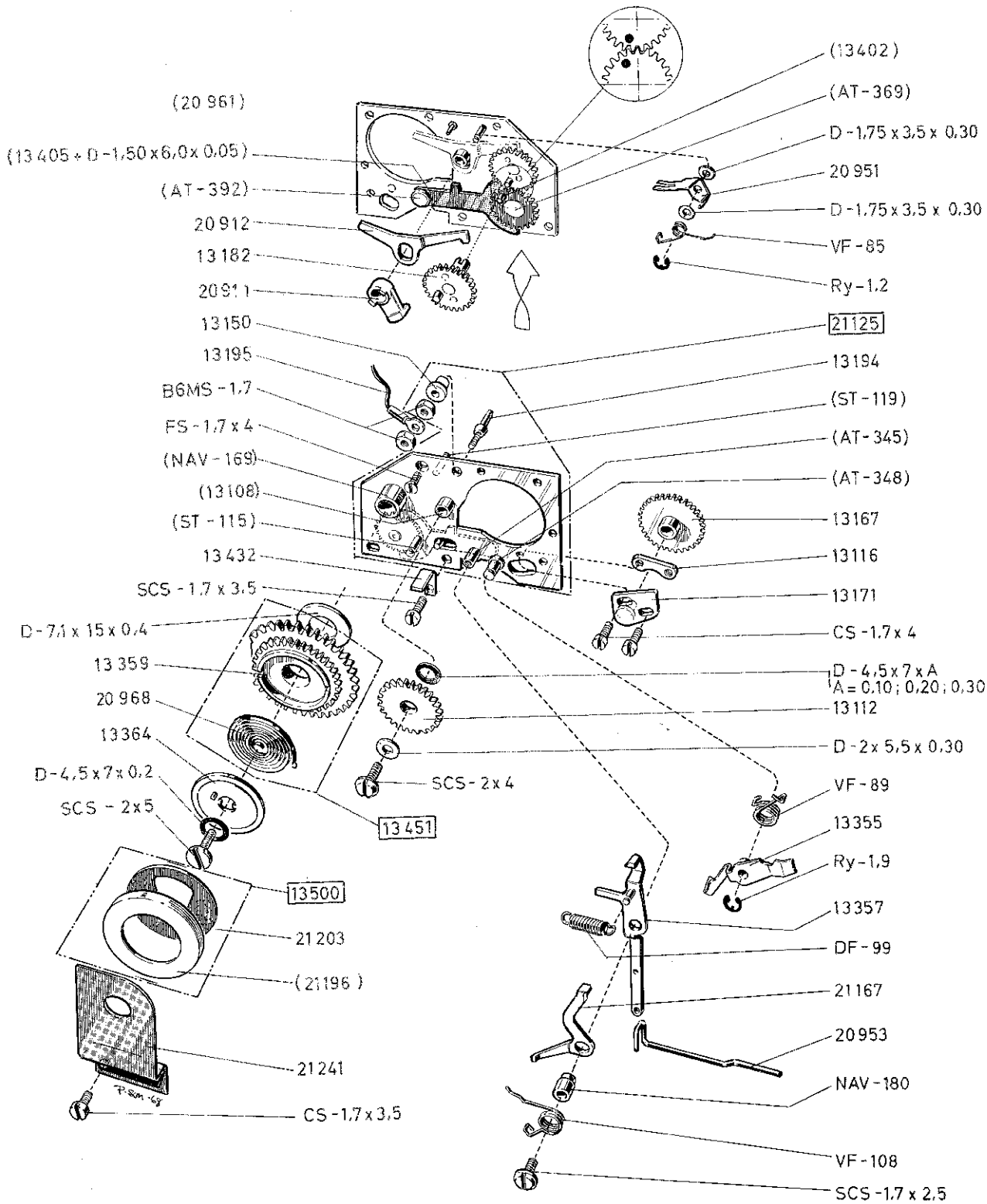
Pcs	Part No.	Description	Price (each)	Next assy.	Remark
1	SCS-1,7×2,5	Screw		50129	
1	SCS-1,7×3,5	Screw		50129	
1	SCS-2×4	Screw		50129	
1	SCS-2×5	Screw		50129	
1	ST-115	Rivet	×	20961	
1	ST-119	Rivet	×	20961	
1	VF-85	Torsion spring		50129	
1	VF-89	Torsion spring		50129	
1	VF-108	Torsion spring		50129	

Serial number US 106701 – forwards



500C/M

Pcs	Part No.	Description	Price (each)	Next assy.	Remark
1	13100	Connecting rod, upper		50129	
1	13101	Connecting rod, lower		50129	
2	13110	Driving disc		90294/295	
1	13125	Light trap		GR-30519	
3	13141	Foam plastic pad		20958	
1	13143	Magazine hook		50129	
1	13155	Top flap	×	90294	
1	13156	Bottom flap	×	90295	
2	13185	Lever		90294/295	
1	13211	Foam plastic strip		21611	
1	13351	Foam plastic strip		21611	
1	13397	Foam plastic strip		GR-30519	
1	20854	Mirror		20958	
1	20901	Mirror protection		20958	
1	20956	Frame for mirror		20958	
1	20958	Mirror, complete		GR-30519	
4	21606	Screw		21611	SVL No. 17/71
1	21611	Frame, complete		50129	SVL No. 17/71
1	30518	Frame, inner	×	21611	
1	GR-30519	Rear plate, complete		50129	State serial No.
1	40235	Frame	×	21611	
1	GR-40237	Rear plate		GR-30519	State serial No.
1	40239	Camera body, complete	×	—	
1	50129	Camera body, assy.	×	40239	
1	90294	Top flap		GR-30519	
1	90295	Bottom flap		GR-30519	
2	CS-1,2×2	Screw		GR-30519	
2	D-2×2,8×A	Washer		GR-30519	A = 0,1; 0,2 mm
2	FS-1,7×4	Screw		50129	
4	NAV-171	Bushing		GR-30519	
2	S-1×6	Pin		GR-30519	
4	SCS-1,7×3,5	Screw		50129	
4	SKSS-1,7×3	Screw		GR-30519	
1	VF-87	Torsion spring		90294/295	
1	VF-88	Torsion spring		90294/295	
1		Standard focusing screen	▲	40239	Order Code No. 42161

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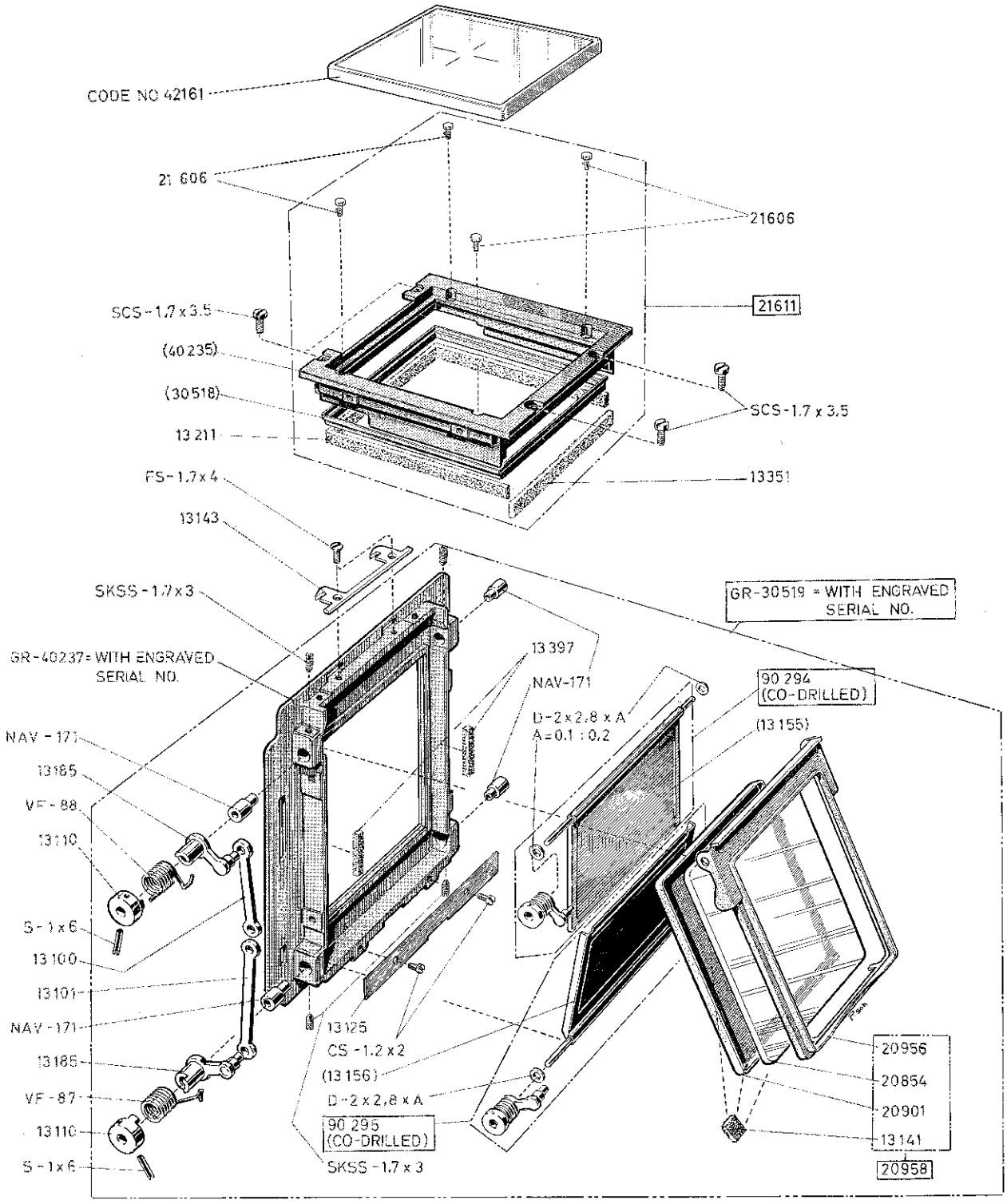
Serial number US 106701 -- forwards



500C/M

Pcs	Part No.	Description	Price (each)	Next assy.	Remark
3	13118	Bayonet flange		30376-2	
1	13140	Teflon button		40239	
1	13146	Bayonet flange		30376-2	
1	13164	Lens catch		30376-2	
1	13212	Foam plastic strip		30376-2	
1	13213	Foam plastic strip		30376-2	
1	13214	Foam plastic strip		30376-2	
1	13371	Ring		30383	SVL No. 9/64
1	13904	Mounting plate		30376-2	SVL No. 17/71; 20/71
1	21096	Plate spring		30376-2	
1	21126-1	Bayonet front plate		30376-2	
1	21141	Cover		40239	
1	30376-2	Bayonet front plate, complete		50129	SVL No. 17/71; 20/71
1	30383	Front gear, complete		30376-2	SVL No. 27/69; 3/71
1	30386	Governor		30376-2	
1	40239	Camera body, complete	×	—	
1	50129	Camera body, assy.	×	40239	
1	AS-114	Screw		30376-2	
2	CP-1,2×6,1	Cylinder pin		30376-2	
2	CS-1,7×3,0	Screw		30376-2	
8	CS-1,7×3,5	Screw		30376-2	
4	CS-1,7×3,5	Screw		50129	
1	CS-1,7×4,5	Screw		30376-2	
2	D-1,8×3×1,10	Washer		30376-2	
1	DF-94	Draw spring		30376-2	
2	FS-1,7×4	Screw		30376-2	
1	FS-1,7×7	Screw		30376-2	
1	SCS-1,7×2,2	Screw		40239	
1	SCS-1,7×4,2	Screw		30383	

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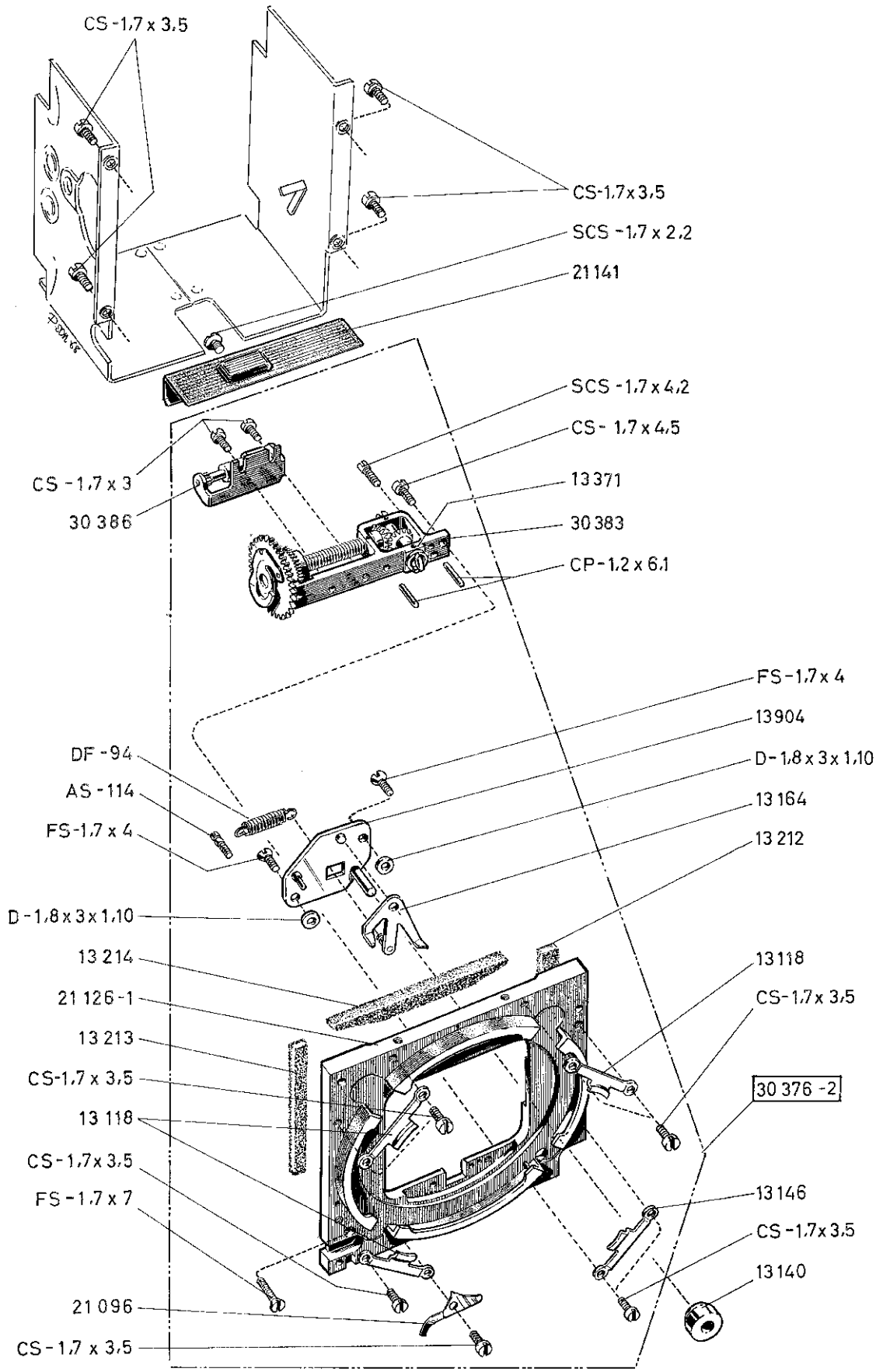

500C/M

Pcs	Part No.	Description	Price (each)	Next assy.	Remark
1	12453	Cable holder		50129	
1	13121	Mirror rest		20959	
1	13220	Signal		50129	
1	13280	Lens lock		50129	
1	13356	Mirror catch		50129	SVL No. 2/71
1	13362	Mirror actuating lever		50129	
1	20959	Inner wall, left, assy.		50129	
1	21095	Inner wall, right, assy.		50129	
1	21142	Cover		50129	SVL No. 2/71
1	21148	Cover		40239	
1	30308	Bottom plate		50129	
1	30309	Inner wall, left	×	20959	
1	30375	Release arm		50129	
1	40239	Camera body, complete	×	—	
1	50129	Camera body, assy.	×	40239	
1	AT-195	Pin	×	21095	
2	AT-333	Pin	×	21095	
3	AT-341	Pin	×	21095	
1	AT-346	Pin	×	21095	
1	AT-353	Pin	×	21095	
1	AT-359	Pin	×	21095	
6	CS-1,7×3	Screw		50129	
12	CS-1,7×3,5	Screw		50129	
1	DF-90	Draw spring		50129	
1	DF-97	Draw spring		50129	
1	FS-2,3×5	Screw		50129	
2	KN-1,45×2,20	Rivet		20959	
1	NAV-174	Hub	×	21095	
1	RY-1,5	Clip		50129	
1	RY-1,9	Clip		50129	
1	SCS-1,7×2,2	Screw		40239	
1	ST-96	Rivet	×	21095	
1	ST-121	Rivet		21095	
1	VF-86	Torsion spring		50129	
1	VF-93	Torsion spring		50129	

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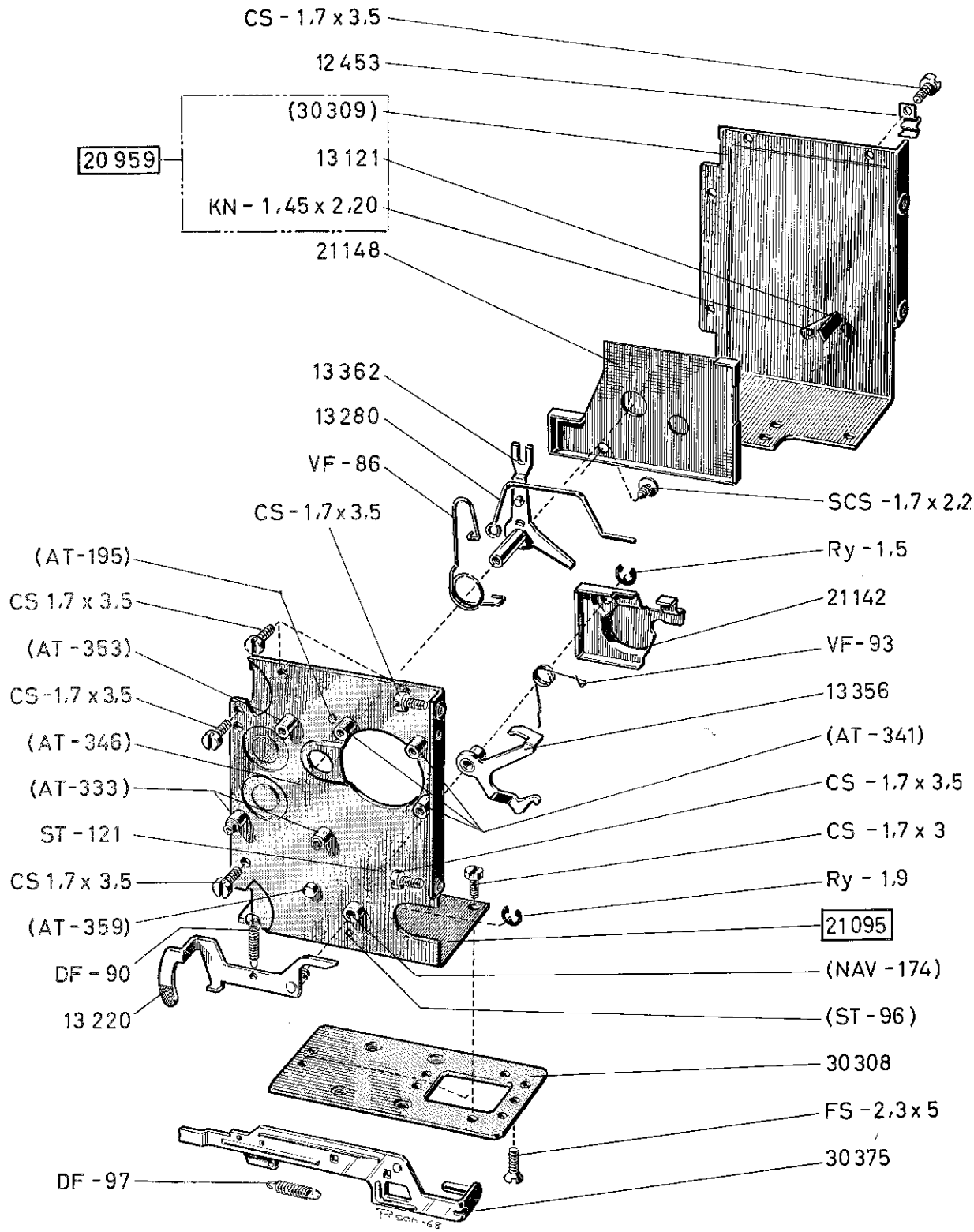
8 71

× = This part will not be supplied; A = assortment

▲ = This part should be ordered from the Sales Department.


CS - 1,7 x 3,5
12 453
(30 309)
20 959
13 121
KN - 1,45 x 2,20
21 148
13 362
13 280
VF - 86
CS - 1,7 x 3,5
SCS - 1,7 x 2,2
Ry - 1,5
21 142
VF - 93
13 356
(AT - 341)
CS - 1,7 x 3,5
CS - 1,7 x 3
Ry - 1,9
21 095
(NAV - 174)
(ST - 96)
30 308
FS - 2,3 x 5
30 375
(AT-195)
CS 1,7 x 3,5
(AT - 353)
CS - 1,7 x 3,5
(AT - 346)
(AT-333)
ST - 121
CS 1,7 x 3,5
(AT-359)
DF - 90
13 220
DF - 97

Stripping instructions

Remove the magazine, lens and film transport knob. Remove the slide 30315 and the tripod nut plate 40153 by unscrewing the six FS–2.3×8 screws. Remove the bayonet catch plate 13163 and the spacer 13147 by unscrewing SCS–3×5.5 with tool V–2207. The camera can now be eased out of the housing. Remove the synchronization cable from the camera housing by removing the cable catch 12453 and the nut B6MS–1.7.

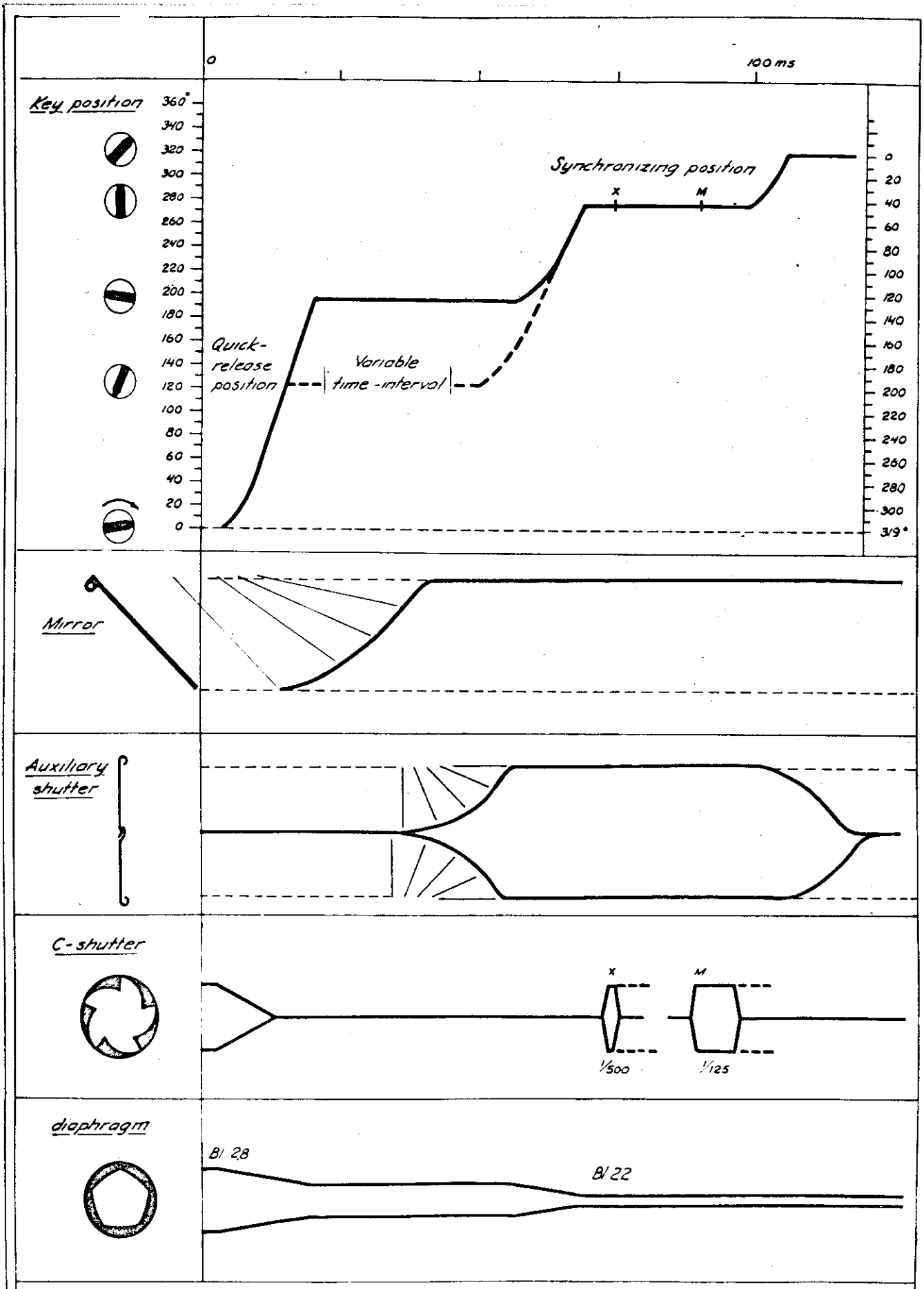
Assembly

Attach the synchronization cable to the camera housing. Push the camera into the housing until about 5 mm remains protruding. Then lift the S-arm with a spring hook and check that the synchronization cable is in the correct position. The camera housing can then be pushed completely in. Attach the tripod nut plate and secure with two FS–2.3×8 when the casing and the back are flush. Attach the slide 30315 with four FS–2.3×8 and then secure the bayonet catch plate and the underlay. Check the function of the camera.

"Trouble-shooting" chart.

Nature of fault:	Cause of fault:	Remedy:
1. The camera appears to be cocked but the lens cannot be freed.	**The lens is faulty and, as a result, the lens-cocking gear 30329 has been stripped when cocking the shutter.**	**Changing of lens-cocking gear 30329.** Push in the lower blind. Remove the guard 20946 over the lens-cocking gear with screw SCS–1.7×2.2. Remove screw CS–1.7×4.5 and then screw in the little screw alongside at the bottom. This frees the lens cocking key from the lens, the camera can be cocked and lens removed. Dismount as per the stripping instructions. Remove the three SCS–1.7×3.5 from the lens mount 20955 and the base plate 30308. Remove the four CS–1.7×3.5 screws securing the front. Remove the lens-cocking gear 30329 from the bayonet catch front plate by means of FS–1.7×7. A new gear is then mounted and adjusted with V–2075. Tension the spring in the bottom and then release about one turn so that a fixer pin – diam. 1.5 mm – can be inserted in the hole in the gear wheel 13168 through the corresponding hole in component 20938. The gear is now in the correct position and the bayonet catch front plate can be attached to the camera body. Check that the camera is cocked and that the intermediate wheel 13167 has been released and moved into the advance position. Check that the length of the camera is 71.40 ± 0.03 mm. Remove the fixer pin and adjust the position of the key with V–2075, and adjust with the intermediate wheel 13167. Check the function of the camera.
2. When exposing the auxiliary shutter blinds fail to open or close completely.	**The blinds are binding or the operating spring 20928 has broken. The camera has "gone off" without this action being checked by the catch.**	**Replacement of the auxiliary shutter spring 20928.** Remove the brake arm 13175 and then the nylon section 13176 with screw SCS–2×5. Remove the old spring and replace with a new. Replace the nylon section and righten the screw. Cock the camera and, at the same time, press in the carrier catch 20919. By cocking the camera several times with tool V–2206 the spring can be fed into the spring casing. Continue feeding in until resistance is felt. The spring is then tensioned in the bottom. Release the catch wheel 20924 via the catch 13170 until this recess in the magazine feed wheel 13166 is parallel with the rear surface of the camera. Not until this stage may the camera be cocked and exposed in the normal way. Then attach the brake arm 13175 and check the function of the camera.
3. On exposing the upper blind 13186 does not go completely up.	**The position of the blind related to its shaft has changed owing to careless handling or the operating spring 20928 is broken.**	**Replacement of the auxiliary shutter blind.** Remove the camera back, auxiliary shutter and mirror in the following way. Remove the catch 13143 and its two FS–1.7×4 and then the six CS–1.7×3.5 which secure the camera back. Knock out the S–1×6 pin and remove the SKSS–1.7×3 screws. Then remove the bearing, mirror and blind. Note the position of the washers D–2×2.8×A so that they can be replaced in the same way. Fit the new blind in the way mentioned above, but in the reverse order. Adjust the mirror and blind so that they run lightly in the lens mount and camera back respectively. Note the eccentric hub NAV–172, which is intended to facilitate adjustment. Then attach the camera back. Check that the mirror pinion engages in the groove on the mirror release arm 13162, and the shafts in their respective pinions. Screw the camera back and the catch into position. Check the function of the camera. Make a special check to ensure that, when the blinds close, the lower blind reaches the back about 3 mm before the upper one. Finally check the length of the camera and the focussing.

Nature of fault:	Cause of fault:	Remedy:
4. Faulty S-function.	**The S-arm 20937 is bent. Possibly the magazine slide is in when exposing via the S (rapid-action) device. Faulty nylon section on wheel 13168.**	**Repair of the S-function.** Brake the lens key with the finger. When releasing with the S-arm the release action must not take place until the small catches on the release rod 13159 and the signal arm 13158 have passed each other by a margin of 0.2 mm. To obtain this margin bend the S-arm with tool V–2202. Check the land surface of the nylon section on wheel 13168 (against the trigger bar). Check that the whole surface is even. Cut it plain if necessary. Note that not more than 0.5 mm is cut away. Check the other actions of the camera and lubricate as required.
5. When making a normal exposure the release button 13134 remains in the depressed position and, possibly, the Compur shutter does not function.	**Sticking in the release mechanism. Faulty nylon section on gearwheel 13168, the shutter catch arm 20912 is sticking, the air brake is binding, or the release arm 13159 is binding against the nylon section on wheel 13168.**	**Repair of harsh nylon section on wheel 13168 etc.** Push in the lower blind. Remove the guard over the lens-cocking gear. Remove screw CS–1.7×4.5 completely. Screw the small screw alongside into the bottom. This disconnects the lens and the camera and it should now be possible to remove the lens. Dismount the camera as described under "Stripping instructions". Check and adjust the components mentioned in "Cause of fault". As regards the nylon section on wheel 13168, it is possible that this has been damaged and it should be carefully recut to shape. Lubricate and check the function of the camera.
6. The camera is cocked but no exposure can be made.	**The lens lock 20962 (perhaps only the button 13140) is sticking.**	**Repair of the lens lock.** Check that the lens is screwed in to the stop. If this is the case, push in the lower blind. Release the mirror by pushing the mirror guide 13191 forward. Guide the lens lock into the locked position. If the camera now functions the lens lock should be adjusted. Strip the camera as described in "Stripping instructions". Check the action of button 13140. Check the action of lock arm 13164 and lubricate if necessary. Check with the lens. Check that the button in the casing moves freely.
7. After making a normal exposure the camera cannot be cocked.	**Binding of the winder catch 13192, the release mechanism, the nylon section on 13168 and the air brake.**	**The winder catch 13192 does not unmesh.** If the release bar 13159 is protruding through the back 40150, try to press it in. Try to cock the camera if possible. If this cannot be done take off the wheel bayonet catch. It should now be possible to cock the camera. Strip as described in "Stripping instructions". Use tools V–2200 and V–2204 if component 13165 requires adjusting. Adjust and lubricate if necessary. Make a special check to ensure that the winder catch is arrested in the forward position when the bayonet catch is replaced and that it disengages in the exposed position. Adjust if required.
8. Stiff release.	**Too great an engagement between the catch pinions on the release bar 13159 and the signal arm 13158.**	**Adjustment of catch pinions.** Check the engagement between the catch pinions on the release bar 13159 and the signal arm 13158. Adjust the engagement by bending the small section which moves towards the nylon section with tool V–2203. The adjustment should be such that the release bar does not hope over the locked position when it is withdrawn some few mm behind this position and suddenly released.
9. The mirror does not function.	**The mirror release arm 13162 is worn or bent.**	**Adjustment of mirror release.** Bend the mirror release arm 13162 with tools V–2201 and V–2205. Use both tools at the same time. Check that the mirror movement passes the guide 13191 by 0.5–0.8 mm.
10. The camera is blocked. The Compur shutter closes but does not expose. The auxiliary shutter remains open.	**The shutter catch bar 20912 does not unmesh.**	**Shutter bar blocked.** Cock the lens from behind by turning key 13128 clock-wise to stop. Dismantle the camera. Check the shutter bar 20912 and the resilient stop on wheel 13182. Defective parts are changed or repolished.



FUNKTIONAL DIAGRAM FOR HASSELBLAD 500C	VICTOR HASSELBLAD AB			
	DATUM 10/6 -65	RITAD E Gu	KONTR	90202

Operating Chart 500C

The upper horizontal scale is graduated in milliseconds, where each sectional mark represents 25 ms and the different phases of the sequence of events can be read off in time.

The left vertical scale is divided into grades and indicates the position of the key at the different moments.

When the exposure button is pressed, the following takes place:

The key is released and starts rotating and the shutter and diaphragm in the lens start closing. After about 15 ms - at a key angle of 120° - the between-the-lens or C-shutter closes and the mirror begins its upward moment. At 200°, the camera key brakes for about 35 ms to permit the mirror and the auxiliary shutter to finish operating before the C-shutter opens for exposure. At about 40 ms, the mirror is completely elevated and the auxiliary shutter starts opening. After 60 ms, its movement is concluded.

The camera key will now continue its rotating movement and the lens aperture continues to stop down to the pre-set value. After 70 ms, and at a 280° key angle, the stopping down is completed. If the lens synchronization is set at X, the C-shutter will now open and be kept open according to the pre-set shutter time. At the M setting, the opening moment of the C-shutter is delayed for 16 ms in order to give flash lamps sufficient time to attain their full affect.

When the exposure button is released, the flap shutter closes and the key stays in its bottom position, 319°. The dashed line in the upper chart denotes the instantaneous release position, the key has stopped at 120° and then the C-shutter has closed, the aperture is stopped down to the pre-set value and the mirror and auxiliary shutter are open. By pressing the exposure button, the exposure continues as the C-shutter carried out an exposure according to the pre-set time.

PROCEDURE TO ASSEMBLE 500C BODY

1. Rear plate with auxiliary shutter, arms, and mirror
2. Signal arm with springs
3. Mirror catch with spring and cover (check pin)
4. Side mechanism plate with parts (check self release)
5. Mirror release arm with spring and lens stop
6. Front plate with front mechanism and brake mechanism
7. Arms and gear on side plate
8. Pump with arm and spring (only on 500C body below serial number CE-38592)
9. Release arm
10. Adjustments
11. Install in shell
12. Final check
13. Mirror mechanism cover and front mechanism cover

CHECK POINTS FOR 500C BODY

Side Plate:

1. Replace arm 20912
2. Auxiliary shutter spring installation
3. Check self release
4. Check synchronization

Front Plate:

1. Front mechanism 4-4½ turns
2. Drill 1mm for lens catch
3. Change screw FS 1.7/3.5
4. File release arm (angle)

Adjustments:

1. Length 71.40mm
2. Key position → REFER TO PAGE 4
3. Release arm-link cocked 0.2-0.4mm (on latest model release 0.2-04mm)
4. Play between release and signal arm approximately 0.5mm (on latest model 0.1-0.2mm)
5. S-release — TIME
6. Cocking stop arm
7. Mirror catch
8. a/key, b/signal, c/auxiliary shutter (on new model--a/key, b/auxiliary shutter, c/signal)
9. Auxiliary shutter blinds

Camera in shell Final check:

1. Release position (Tool V-2354, 2-4 lines)
2. S-release
3. Length, mirror, ground glass

KEY POSITION TOOL

— WHEN MAKING THESE ADJUSTMENTS BE SURE TO HAVE DISCS ON WIND RATCHET. — IMPORTANT

1. Camera cocked — ADJUST BRASS GEAR w/BRACKET
   Hold winding against stop arm #13355
   300 gr. 15-16°

2. Let go, winding — ADJUST RATCHET STOP PAWL
   300 gr. 8-9°

3. 1400 gr. can't pass first line — CHANGE ~~ADJUST~~ BRASS GEAR

4. Release camera hold button (auxiliary shutter open) 300 gr. 268-273°) — CHANGE [redacted] BRASS GEAR

5. Let go, release
   300 gr. 311-321° — CHANGE [redacted] BRASS GEAR

PROCEDURE FOR REPAIRING FRONT PLATE

To Remove:

1. Cock camera
2. Insert locking pin in front mechanism
3. Remove screws (7)

To Install:

1. Adjust tension on spring 4–4½ times
2. Insert locking pin
3. Camera mechanism in cocked position
4. Install front with screws
5. Check and test

PROCEDURE FOR REPAIRING SIDE MECHANISM PLATE

To Remove:

1. Cock camera
2. Insert locking pin in front mechanism
3. Remove mirror mechanism cover
4. Remove release arm
5. Remove intermediate gear (13112)
6. Remove arms #20937, 13165, and 13192 (on latest model--arms #13357, 21167, and 13355)
7. Remove mirror mechanism arm
8. Remove screws (6)

To Install:

1. Mechanism in cocked position
2. Install plate with ratchet (13170)
3. Arms #13192, 13165, and 20937 (on latest model--arms #13357, 13355, and 21167)
4. Mirror mechanism arm
5. Intermediate gear
6. Release arm

PROCEDURE TO REPLACE SPRING STOP (20509)
GEAR

1. Cock camera
3. Insert locking pin in front mechanism
2. Remove mirror mechanism cover
4. Remove MIRROR CAM curve 20920 (~~on latest model~~ remove pump and bend pump bracket)
5. Remove release arm
6. Remove intermediate gear - replace washer + screw into hole to hold mirror arm
7. Remove arms #20937, 13165, and 13192 (on latest model-- arms #13357, 21167, and 13355)
8. Remove brass gear (M-13167) and #13171
9. Remove ratchet and screws
10. Remove top part of winding mechanism
11. Turn lower part $\frac{1}{4}$ turn
12. Remove spring stop

MAGAZINE ASSEMBLY (OVER #20,000)

1. Main spring unit
2. Nylon stop
3. Counter arm (12814)
4. Counter gear with spring
5. Stop arm (12818)
6. Gear and spring assembly (20716)
7. Attach springs for arms
8. Wind main spring unit two turns
9. Film transport gears (13064)
10. Clutch gear (12209)
11. Attach spring from 20716
12. Signal with spring
13. Plate
14. Winding handle
15. Side plate
16. Leather
17. Check with film

COMPUR SHUTTERS

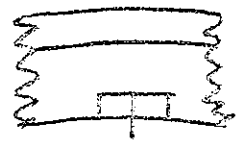
1. Shutter function (gauge V-2223)
2. Oil on shutter blades
3. Lubricant (dry lubricant BJ-1058)
4. D-position
5. Optical centre gauge
6. Focusing mount
7. Improved shutter
8. Fungus and separation must go to factory

LENSES

CS-1210 670	Biogon 4.5/38
CS-1210 701	Distagon 5.6/60
CS-1210 702	Planar 2.8/80
CS-1210 703	Sonnar 4.0/150
CS-1210 704	Sonnar 5.6/250
CS-1210 706	Distagon 4.0/60
CS-1210 707	Tele Tessar 8.0/500
CS-1210 709	Distagon 4.0/50
CS-1210 710	Planar 4.6/120

FUNCTION TABLE

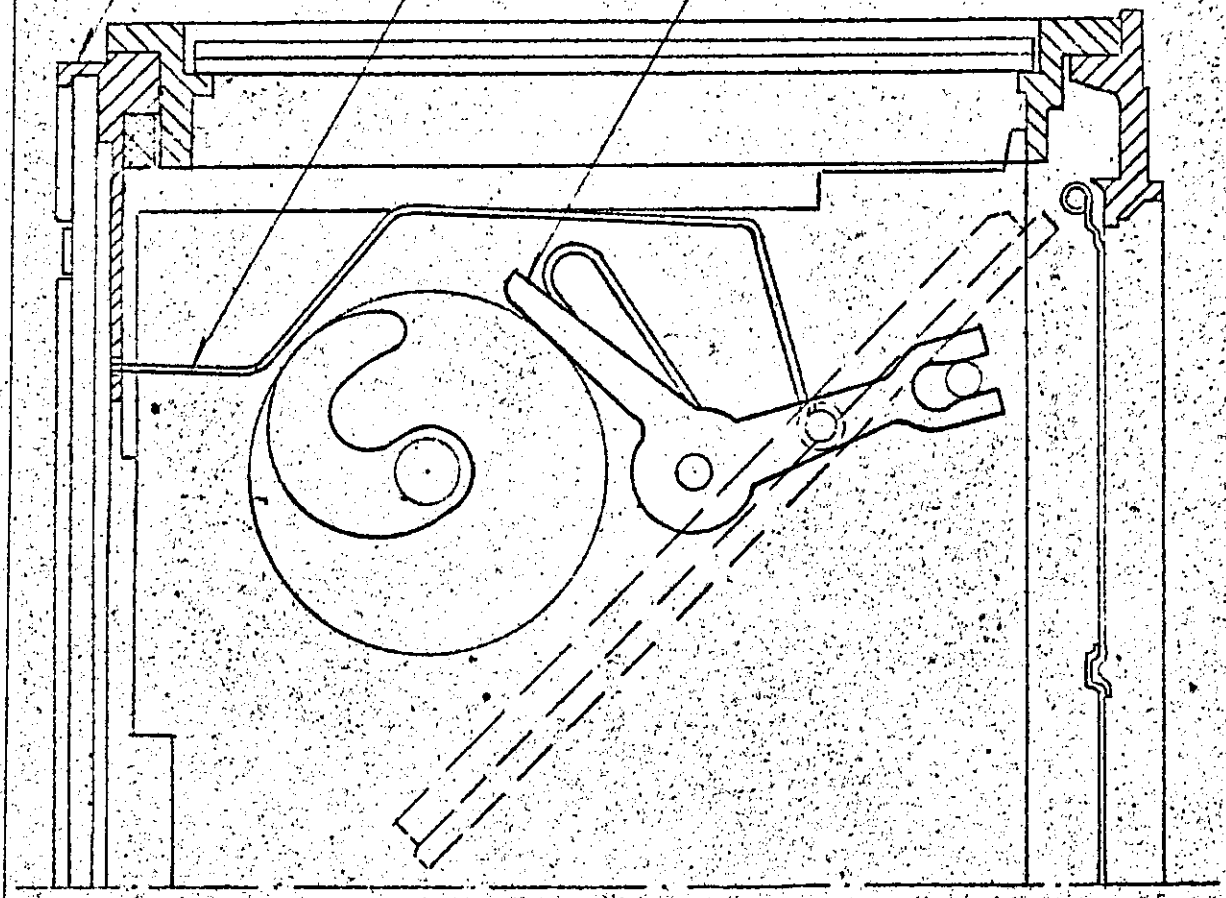
FOR GAUGE V-2223

Shutter position when checking type of shutter	CS-1210 701/2/3/4	CS-1210-670 (Biogon)
0-position	Scale ring clamped in centre position 	The outer scale ring on the gauge is moved until the pointer is at "0"
1 (314°)	Latest cocking position for checking only BETWEEN BOTH 1 - 1*	Same as 702/703/704
1* (305°)	Latest cocking position for repair IMPORTANT Have right on line on Index #3	Same as 702/703/704
2 (322°)	Earliest stop NOT support to stop Button 2	Same as 702/703/704
3 (306°/310°)	Transport position	Obsolete
4 (180°)	Sectors closed	Obsolete
5 (86°)	Earliest contact, cocking arm (-528) catch arm (-621)	Same as 702/703/704
6 (59°35'/52°29')	Release position for checking only	Same as 702/703/704
6* (59°/53°)	Release position for repair IMPORTANT ADJUST WIDTH IN CENTER	Same as 702/703/704
7 (30°)	Earliest contact, cocking ring (-528) time arm (-519)	same as 702/703/704
8 (313°)	Checking position for function of iris and full sector opening of shutter	Obsolete

21126

13280

13362



Tolerans där annat angives

Mått	Ex	Avst	Inv. ø	Utv. ø
utan decimal	25	± 0,2	+ 0,2	— 0,2
med en decimal	25,0	± 0,1	+ 0,1	— 0,1
med två decimaler	25,00	± 0,05	+ 0,05	— 0,05

Ant.	Ritn. nr		Ändr. nr	Ändrat från	Dat.

Victor Hasselblad

40180

Ytbeh.

Material:

Typ:

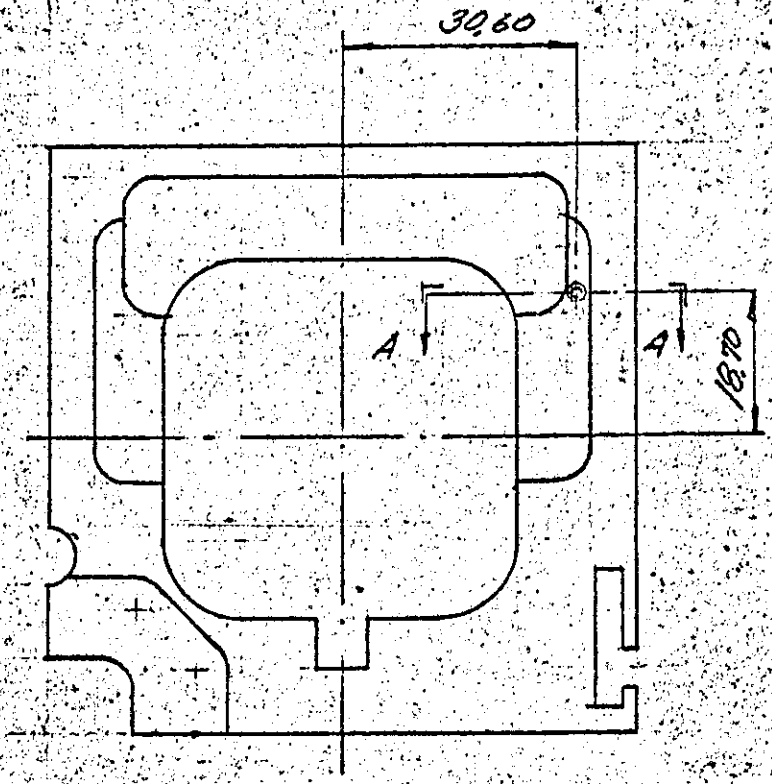
Ritn. Nr 500 c/Fig. 1

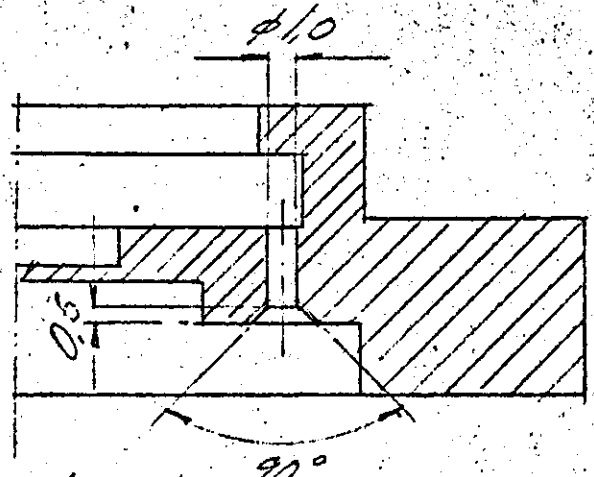
Skala:

Ritad

Tolerans ej annat angives

Mått	Ex	Avst	Inv. ø	Utv. ø
utan decimal	25	± 0,2	+ 0,2	— 0,2
med en decimal	25,0	± 0,1	+ 0,1	— 0,1
med två decimaler	25,00	± 0,05	+ 0,05	— 0,05





A — A

Ant.	Ritn. nr	Ändr. nr	Ändrat från	Dat.

Victor Hasselblad

40180

Ytbeh.

Material:

Typ:

Ritn.

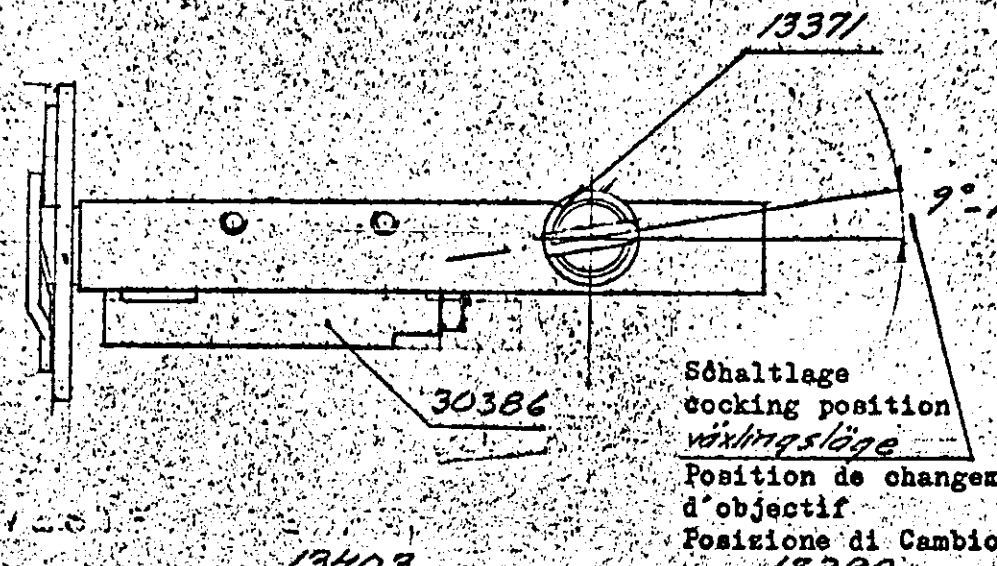
Nr 500C/Fig. 2

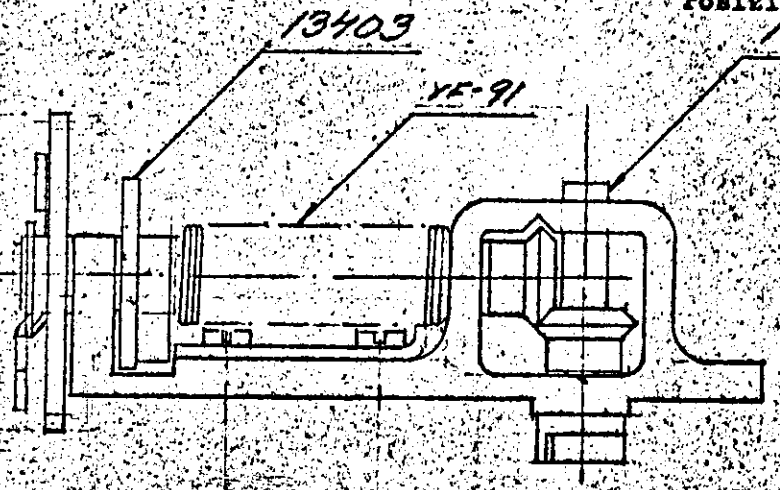
Skala: | Ritad

Dat. | Kontr.

Toleranser där ej annat angives

Mått	Ex.	Avst.	Inv.-a	Utv.-a
utan decimal	25	± 0,2	+ 0,2	− 0,2
med en decimal	25,0	± 0,1	+ 0,1	− 0,1
med två decimaler	25,00	± 0,05	+ 0,05	− 0,05





Ant.	Ritn. nr	Ändr. nr	Ändrat från	Dat.
	40180			

Victor Hasselblad

Typ:

Ytbeh.

Material:

Skala:

Ritad

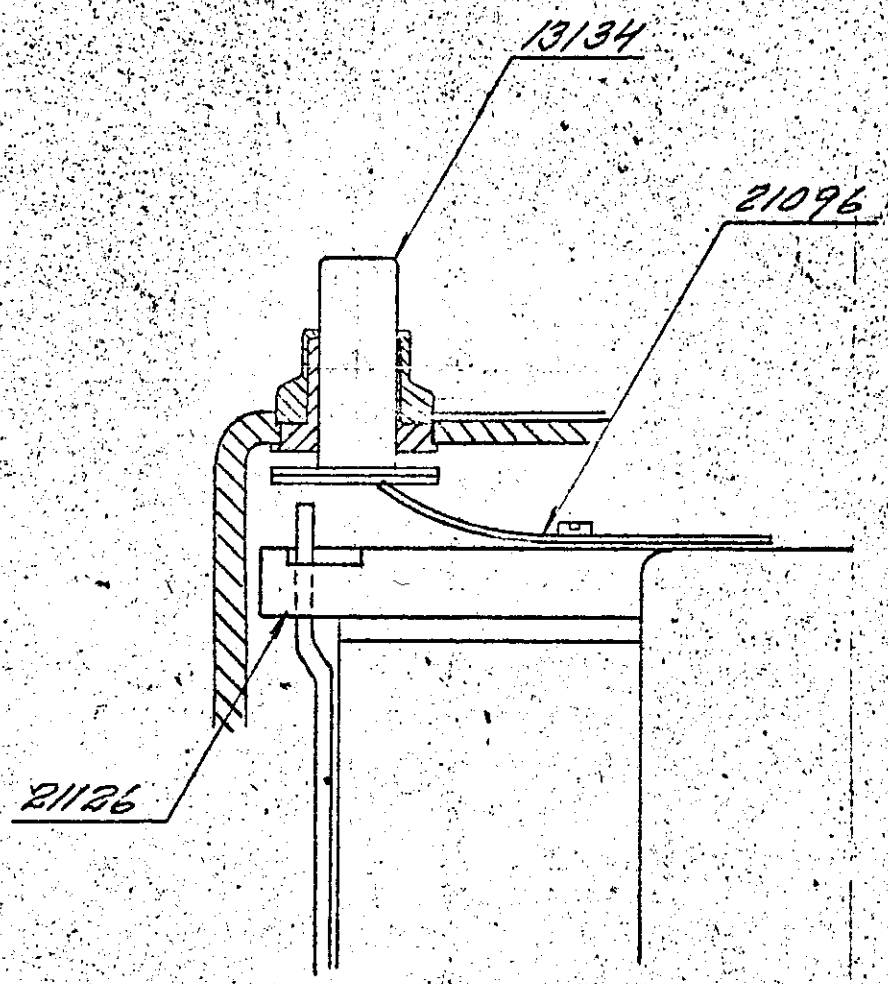
Dat.

Kontr.

Ritn. Nr 500 C/Fig. 3

Tolerans ej annat angives

Mått	Ex	Avst	Inv. ø	Utv. ø
utan decimal	25	± 0,2	+ 0,2	− 0,2
med en decimal	25,0	± 0,1	+ 0,1	− 0,1
med två decimaler	25,00	± 0,05	+ 0,05	− 0,05



Ant.	Ritn. nr	Ändr. nr	Ändrat från	Dat.

Victor Hasselblad

40180

Ytbeh.

Material:

Typ:

Ritn.

Nr 500C/Fig. 4

Skala:

Ritad

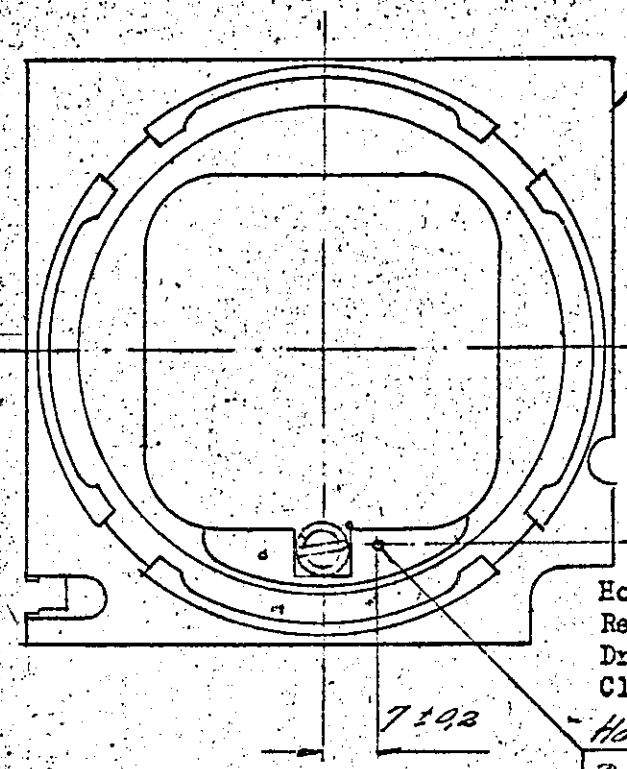
Dat.

Kontr.

Tolerans a... i annat angives

Mått	Ex	Avst	Inv.mått	Utv.mått
utan decimal	25	+/- 0,2	+ 0,2	- 0,2
med en decimal	25,0	+/- 0,1	+ 0,1	-
med två decimaler	25,00	+/- 0,05	+ 0,05	-

21126

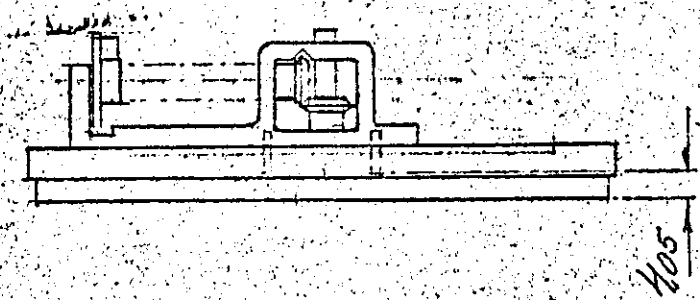


Hole 1,2 P7, depth 5 mm
Reaming depth 4,7 mm
Drive in pin CP-1,2x6,1
Clearance in front ϕ 1,3 ±
Hål 1,2 P7 Borrdjup 5 0,1
Brotsch djup 4,7
stift CP-1,2x6,1 idrives
Frigång i front ϕ 1,3 ±0,1

Foro 1,2 P7 Profondità di perforacione 5
Profondità della madrevite
Si introduca la punta Gilleco della parte anteriore

Trou 1,2 P7 Profondeur 5 mm
Profondeur d'atésage 4,7
Goupille CP-1,2x6,1 à enfoncer
Jeu dans plaque frontale ϕ 1,3 x 0,1

Loch 1,2 P7 Bohrtiefe 5
Ausreibertiefe 4,7
Stift CP-1,2x6,1 wird eingetrieben
Spiel in Front ϕ 1,3 x 0,



Ritn. nr.

Victor Hasselblad

40180

Ritad

Kontr.

Material:

Ändr. nr | Ändrat från | Dat.

Typ:

Ritn. Nr 500C/Fig 5

Tolerans där annat angives

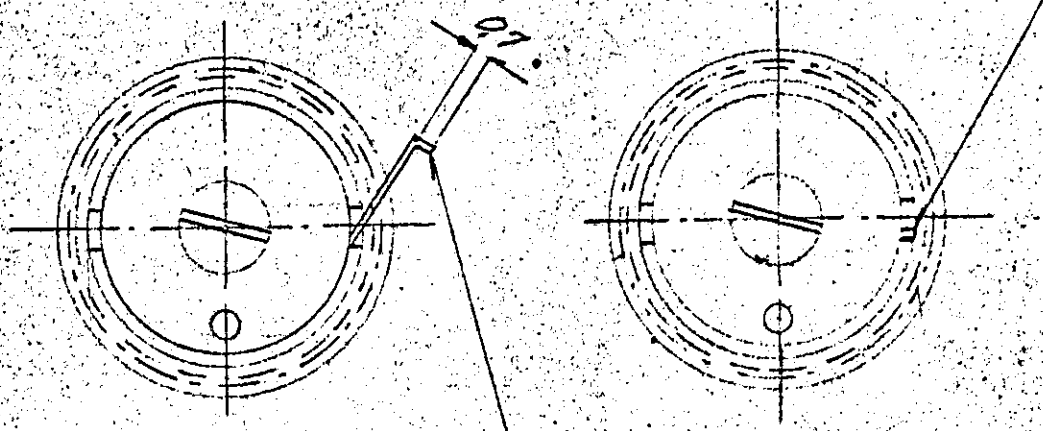
Mått	Ex	Avst	Inv. ø	Utv. ø
utan decimal	25	± 0,2	+ 0,2	− 0,2
med en decimal	25,0	± 0,1	+ 0,1	− 0,1
med två decimaler	25,00	± 0,05	+ 0,05	− 0,05

Ne doit pas depasser ϕ 17,5 mm

May not project beyond ϕ 17,5 mm

Darf nicht herausragen

Får ej sticka utanför ϕ 17,5



Klipp av fjäderänden till 0,7

Cut end of spring to 0,7 mm

Federende abschneiden bis 0,7 mm

Couper l'extremité du ressort á 0,7 mm

Sitagli l'estremitá della molla

Ant.	Ritn. nr	Ändr. nr	Ändrat från	Dat.

Victor Hasselblad

40180

Ytbeh.

Typ:

Ritn.

Nr 500C/Fig. 6

Skala:

Ritad

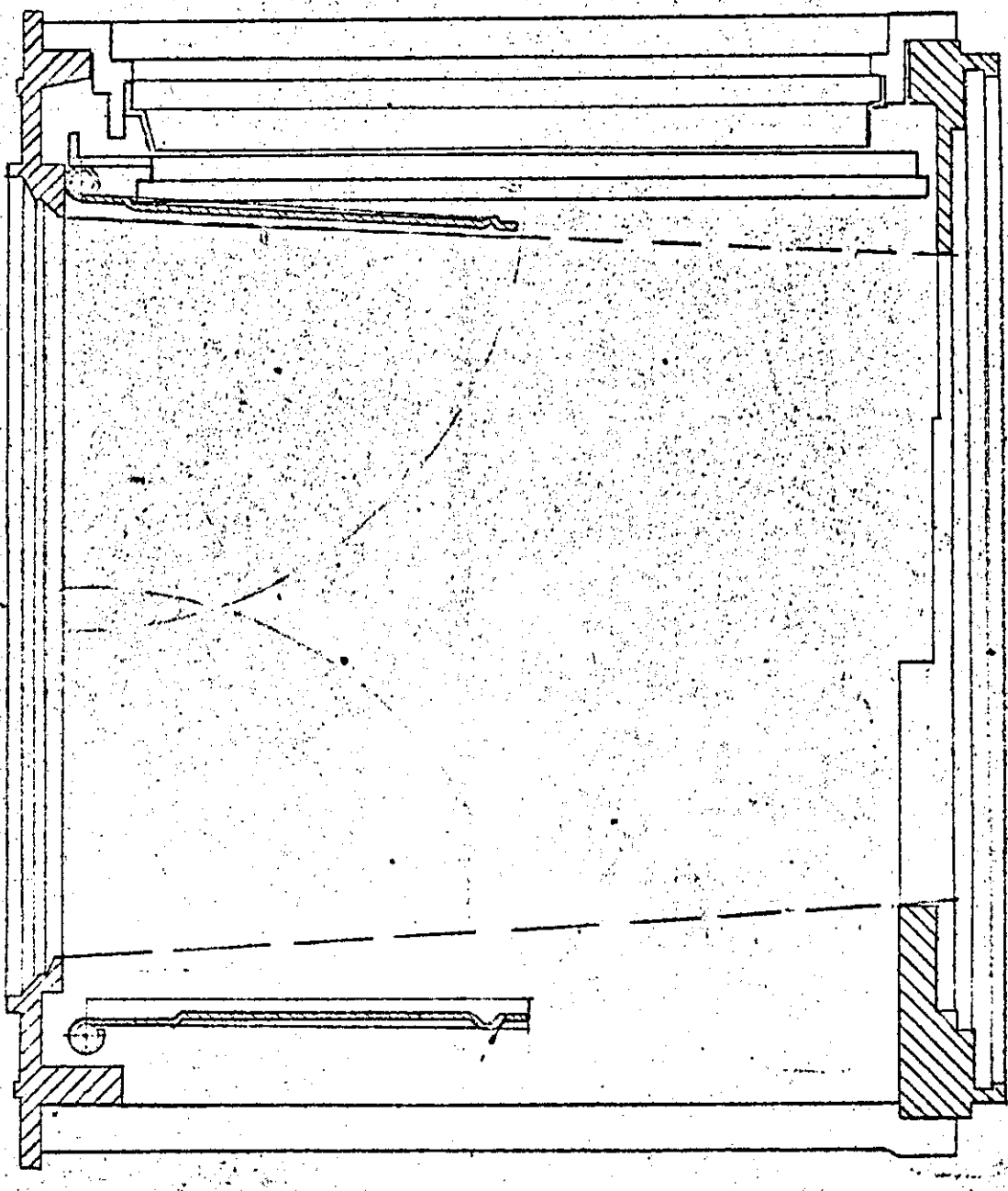
Dat.

Kontr.

Material:

Tolerans om ej annat angives

Mått	ex	Avst	Inv. ø	Utv. ø
utan decimal	25	± 0,2	+ 0,2	— 0,2
med en decimal	25,0	± 0,1	+ 0,1	— 0,1
med två decimaler	25,00	± 0,05	+ 0,05	— 0,05



Ant.	Ritn. nr	Ändr. nr	Ändrat från	Dat.

Victor Hasselblad

40180

Ytbeh.

Typ:

Ritn.

Nr 500 C/Fig. 7

Skala:

Ritad

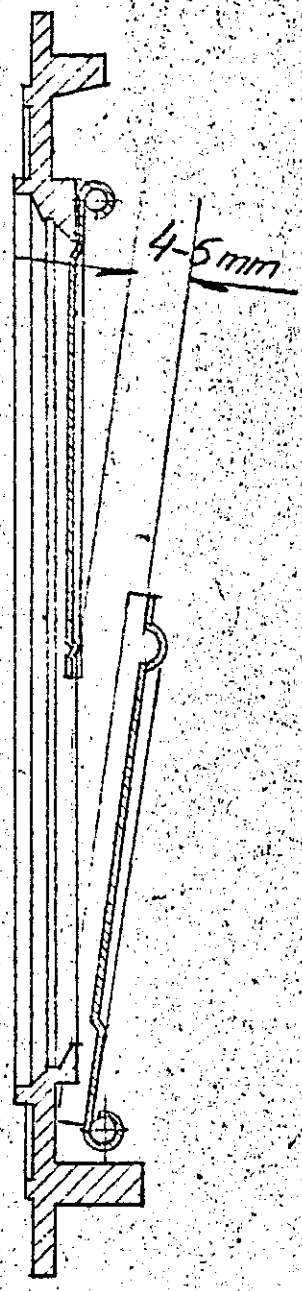
Dat.

Konstr.

Material:

Tolerans där annat angives

Mått	Ex. Avst	Inv. ø	Utv. ø
utan decimal	25 ± 0,2	+ 0,2	— 0,2
med en decimal	25,0 ± 0,1	+ 0,1	— 0,1
med två decimaler	25,00 ± 0,05	+ 0,05	— 0,1



Ant.	Ritn. nr

Ändr. nr	Ändrat från	Dat.

Victor Hasselblad

40180

Ytbeh.

Typ:

Skala:

Ritad

Material:

Ritn.

Nr. 500 C/Fig. 8

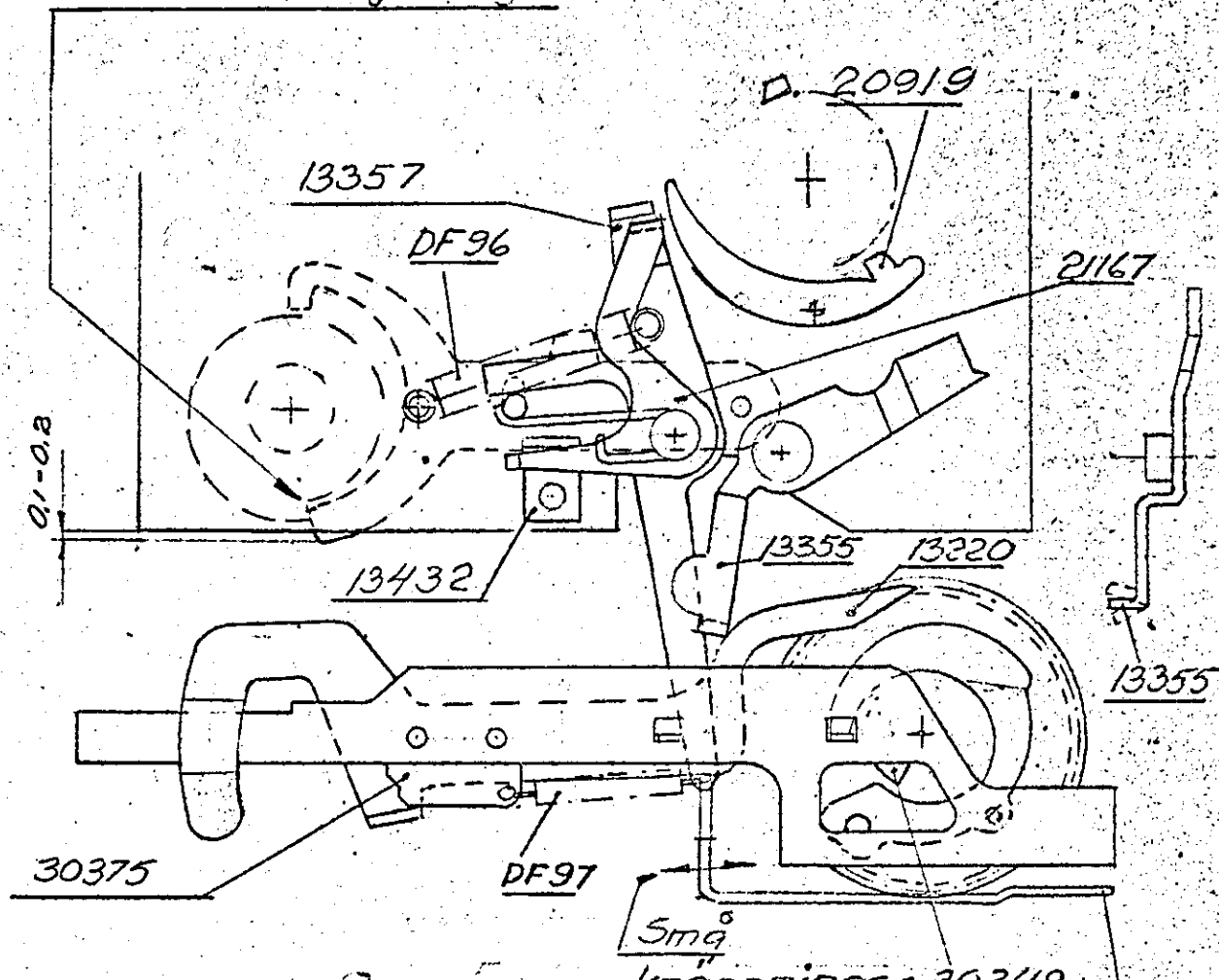
Les volets ne doivent pas fermer

Le alette non devono chiudersi

Die Klappen dürfen nicht schliessen

The blinds should not close

Luckorna får ej stänga.



Depress gently repeatedly

Kleine Knipse

Légers déclenchements

Col Petti

Tolerans di annat angives

Mått	Ex	Avst	Inv. ø	Utv. ø
utan decimal	25	± 0,2	+ 0,2	— 0,2
med en decimal	25,0	± 0,1	+ 0,1	— 0,1
med två decimaler	25,00	± 0,05	+ 0,05	— 0,05

Ant.	Ritn. nr	Ändr. nr	Ändrat från	Dat.

Victor Hasselblad

40180

Ytbeh.

Typ:

Ritn.

Nr 500c/Fig 9

Skala:

Ritad

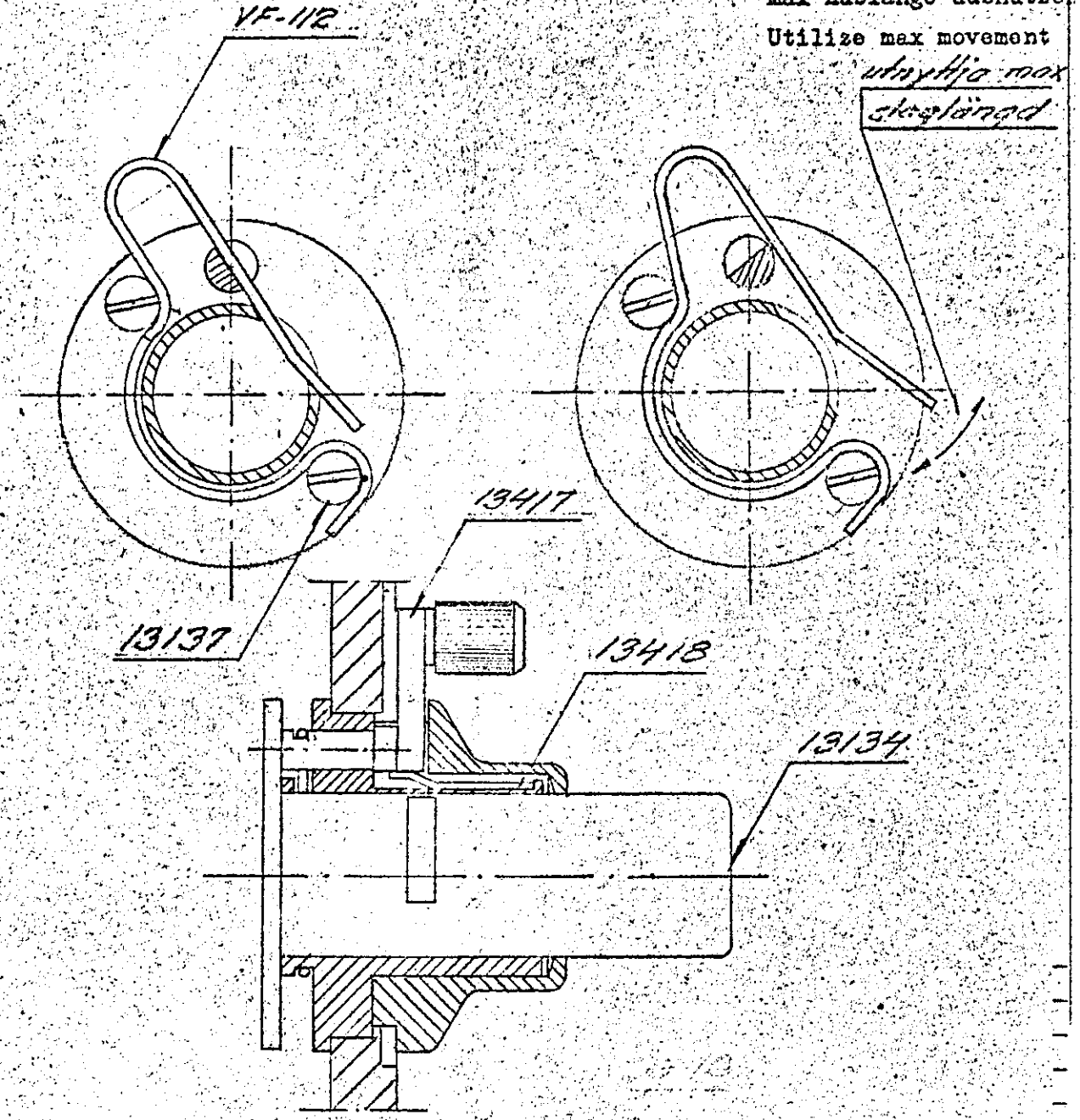
Dat.

Kontr.

Material:

Si utilizzi la massima
trazione di scatto
Utilser la course max
Max Hublänge ausnützen
Utilize max movement

utnyttja max
slaglängd



Tolerans där annat angives

Mått	Ex	Avst	Inv. ø	Utv. ø
utan decimal	25	± 0,2	+ 0,2	— 0,2
med en decimal	25,0	± 0,1	+ 0,1	— 0,1
med två decimaler	25,00	± 0,05	+ 0,05	— 0,05

Ant.	Ritn. nr	Ändr. nr	Ändrat från	Dat.

Victor Hasselblad

40180

Ytbeh.:

Material:

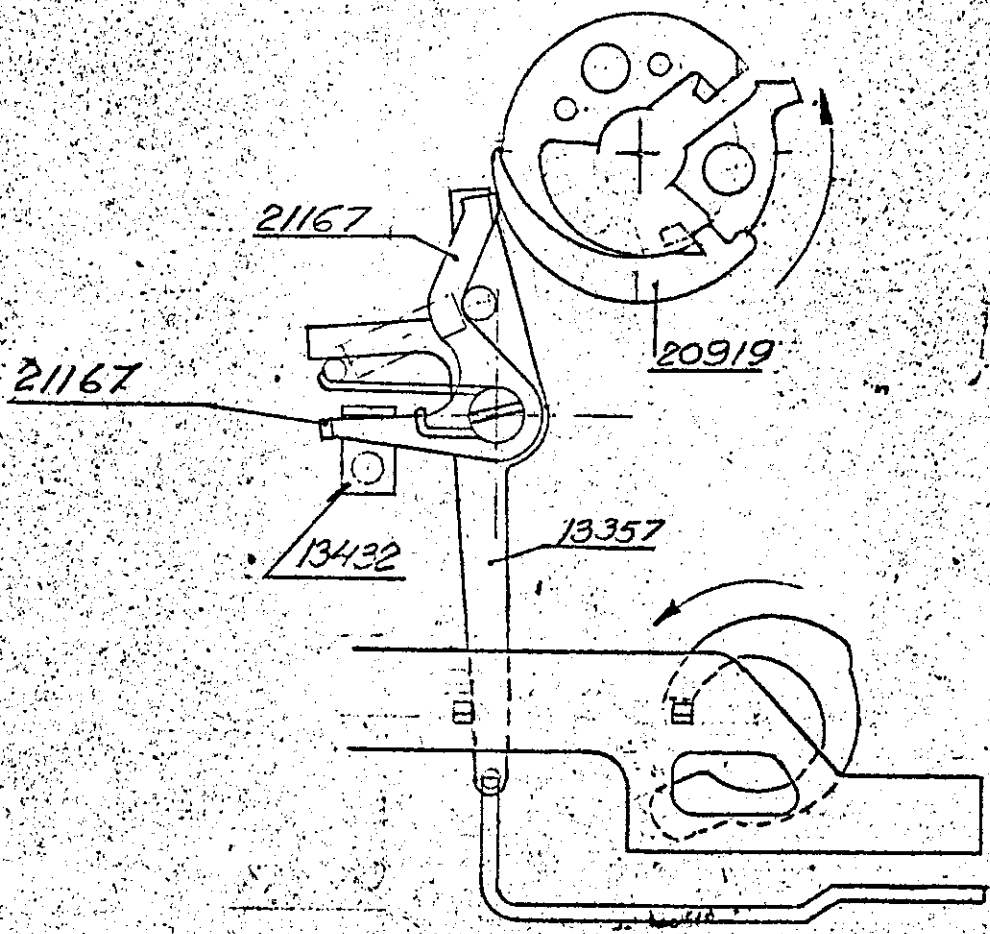
Typ:

Ritn. Nr 500 C/FX 10

Skala: | Ritad

Tolerans ( ) annat angives

Mått	Ex	Avst	Inv.⌀	Utv.⌀
utan decimal	25	± 0,2	+ 0,2	− 0,2
med en decimal	25,0	± 0,1	+ 0,1	− 0,1
med två decimaler	25,00	± 0,05	+ 0,05	− 0,0



Ant.	Ritn. nr	Ändr. nr	Ändrat från	Dat.

Victor Hasselblad

43450

Ytbeh.

Material

Skala 1

Ritad

Kontr.

Tub

Typ 500C/F m. II

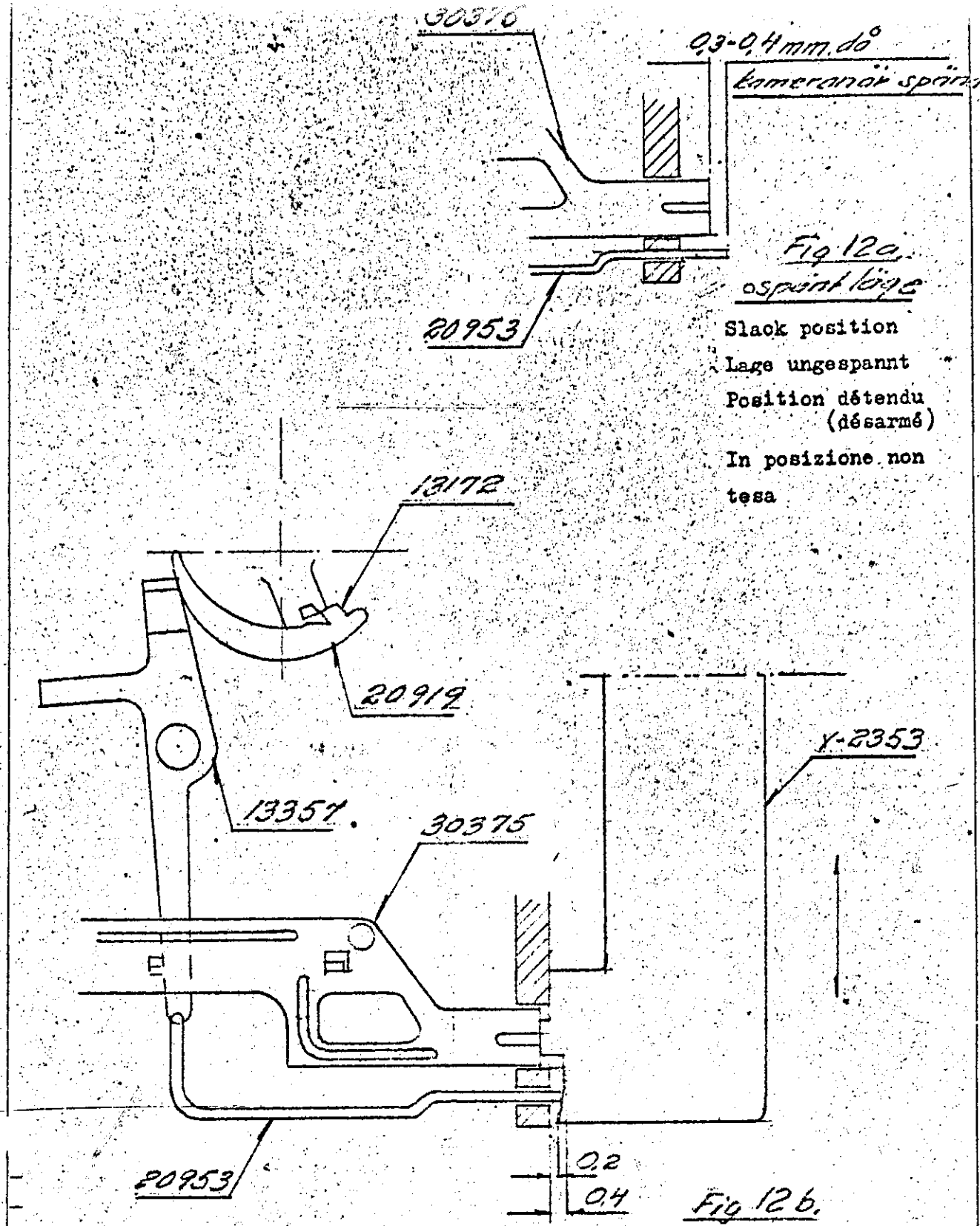


Fig 12a.
ospänt läge

Slack position
Lage ungespannt
Position détendu (désarmé)
In posizione non tesa

Fig 12b.
vid exponering.

When exposing
Beim Auslösen
Pendant l'exposition
Quando si fotografi

Tolerans där annat angives

Mått	Ex	Avst	Inv. ø	Utv. ø
utan decimal	25	± 0,2	+ 0,2	− 0,2
med en decimal	25,0	± 0,1	+ 0,1	− 0,1
med två decimaler	25,00	± 0,05	+ 0,05	− 0,05

Ant.	Ritn. nr	Ändr. nr	Ändrat från	Dat.

Victor Hasselblad

40180

Ytbeh.

Material:

Typ:

Ritn.

Nr 500 C/Fig. 12

Skala: /

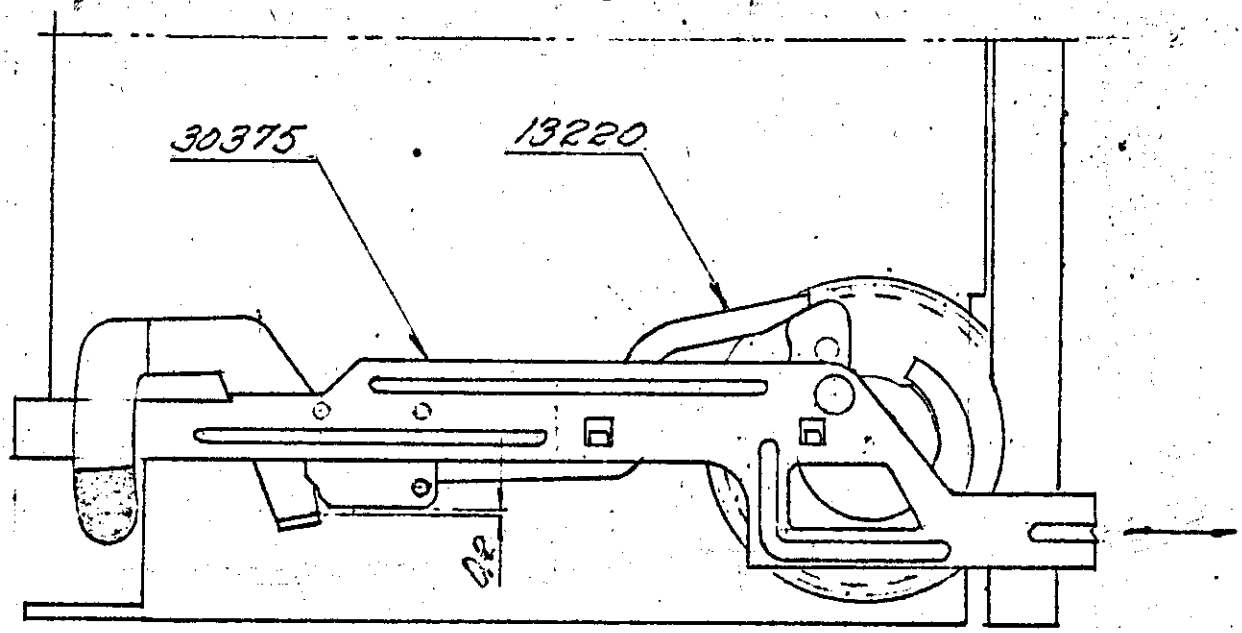
Ritad

Dat.

Kontr.

Tolerans ej annat angives

Mått	Ex	Avst	Inv. ø	Utv. ø
utan decimal	25	± 0,2	+ 0,2	− 0,2
med en decimal	25,0	± 0,1	+ 0,1	− 0,1
med två decimaler	25,00	± 0,05	+ 0,05	− 0,05



Ant.	Ritn. nr	Ändr. nr	Ändrat från	Dat.

Victor Hasselblad

40180

Ytbeh.

Typ:

Ritn.

Nr 500 c / Fig. 13

Skala:

Ritad

Material:

Dat.

Kontr.

Tolerans d[illegible]ej annat angives

Mått	Ex	Avst	Inv.#	Utv.#
utan decimal	25	± 0,2	+ 0,2	− 0,2
med en decimal	25,0	± 0,1	+ 0,1	− 0,1
med två decimaler	25,00	± 0,05	+ 0,05	− 0,05

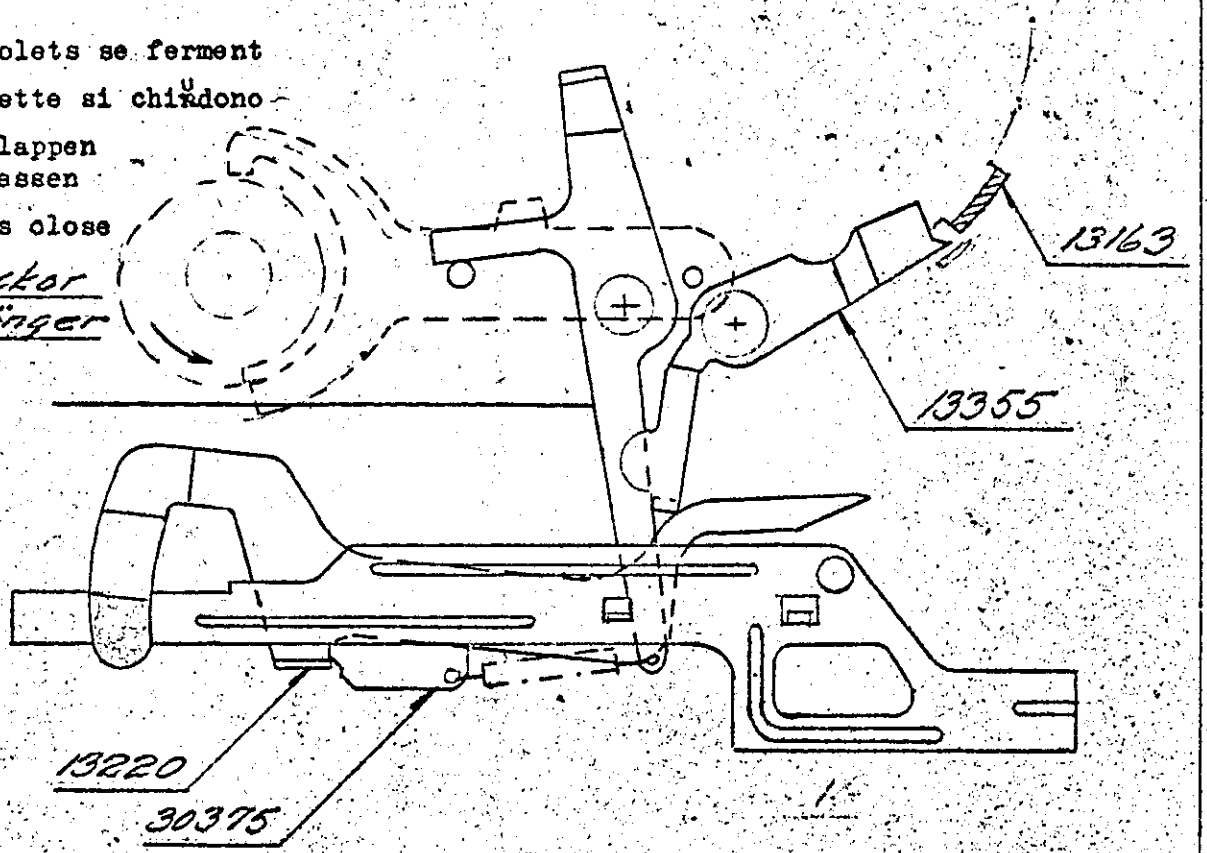
Les volets se ferment

Le alette si chiudono

Die Klappen schliessen

Blinds close

luckor stänger



Ant.	Ritn. nr	Ändr. nr	Ändrat från	Dat.

Victor Hasselblad

40180

Typ:

Ytbeh.

Ritn. Nr 500 c / Fig. 14

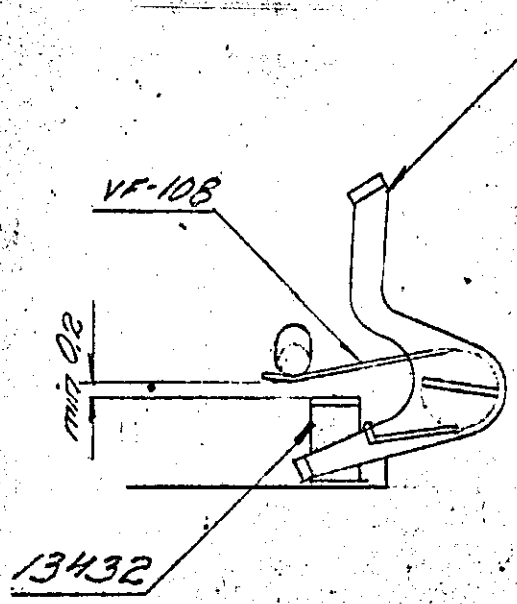
Skalat | Ritad

Dat. | Konstr.

Material:

Tolerans då annat angives

Mått	Ex	Avst	Inv. ø	Utv. ø
utan decimal	ø5	± 0,2	+ 0,2	— 0,2
med en decimal	25,0	± 0,1	+ 0,1	— 0,1
med två decimaler	25,00	± 0,05	+ 0,05	— 0,05



Ant.	Ritn. nr	Ändr. nr	Ändrat från	Dat.

Victor Hasselblad

40180

Ytbeh.

Typ:

Ritn.

Nr 500 C/Fig. 15

Skala:

Ritad

Dat.

Kontr.

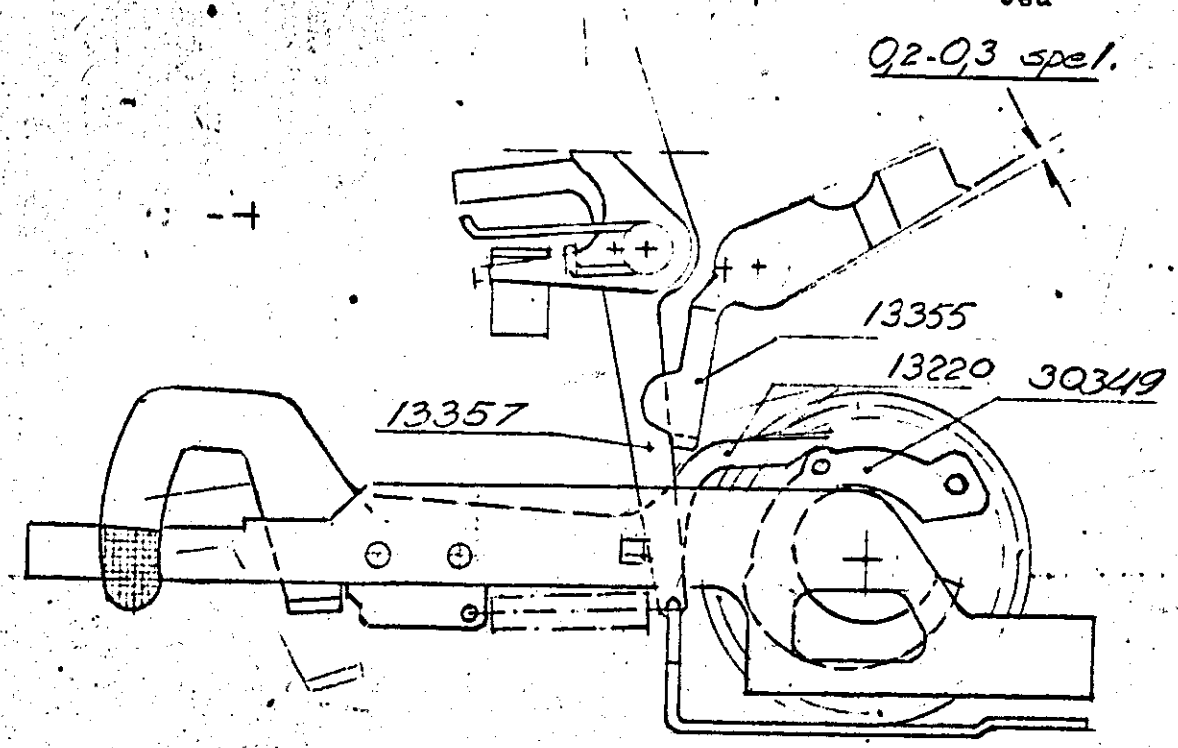
Material:

Tolerans ej annat angives.

Mått	Ex	Avst	Inv. ø	Utv. ø
utan decimal	25	± 0,2	+ 0,2	− 0,2
med en decimal	25,0	± 0,1	+ 0,1	− 0,1
med två decimaler	25,00	± 0,05	+ 0,05	− 0,05

Giuoco
Clearance
Spiel
Jeu

0,2-0,3 spel.



LATEST MODEL
CAMERA

Ant.	Ritn. nr	Ändr. nr	Ändrat från	Dat.

Victor Hasselblad

40180

Typ:

Ytbeh.

Ritn.

Skala:

Ritad

Material:

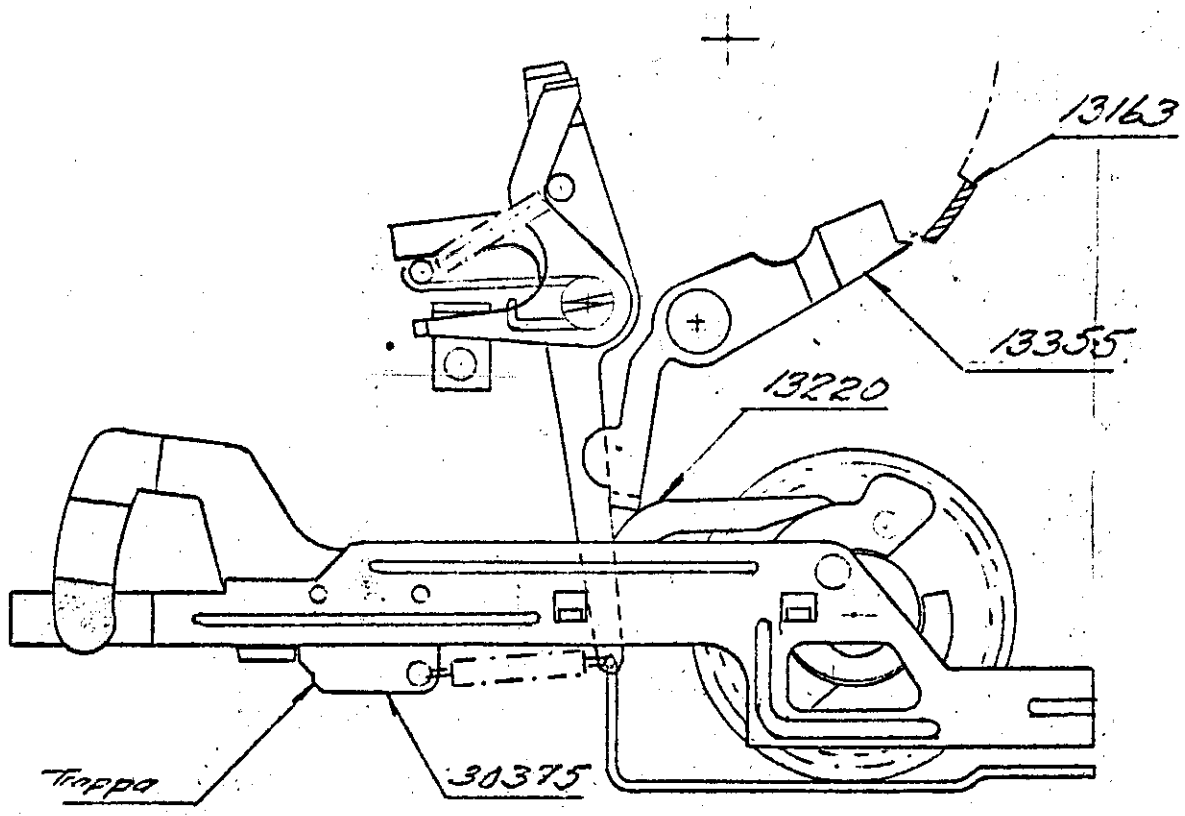
Nr 500C/Fig.16

Dat.

Kontr.

Tolerans där i annat angives

Mått	Ex	Avst	Inv.ø	Utv.ø
utan decimal	25	± 0,2	+ 0,2	− 0,2
med en decimal	25,0	± 0,1	+ 0,1	− 0,1
med två decimaler	25,00	± 0,05	+ 0,05	− 0,05



"Steps"

Sealino

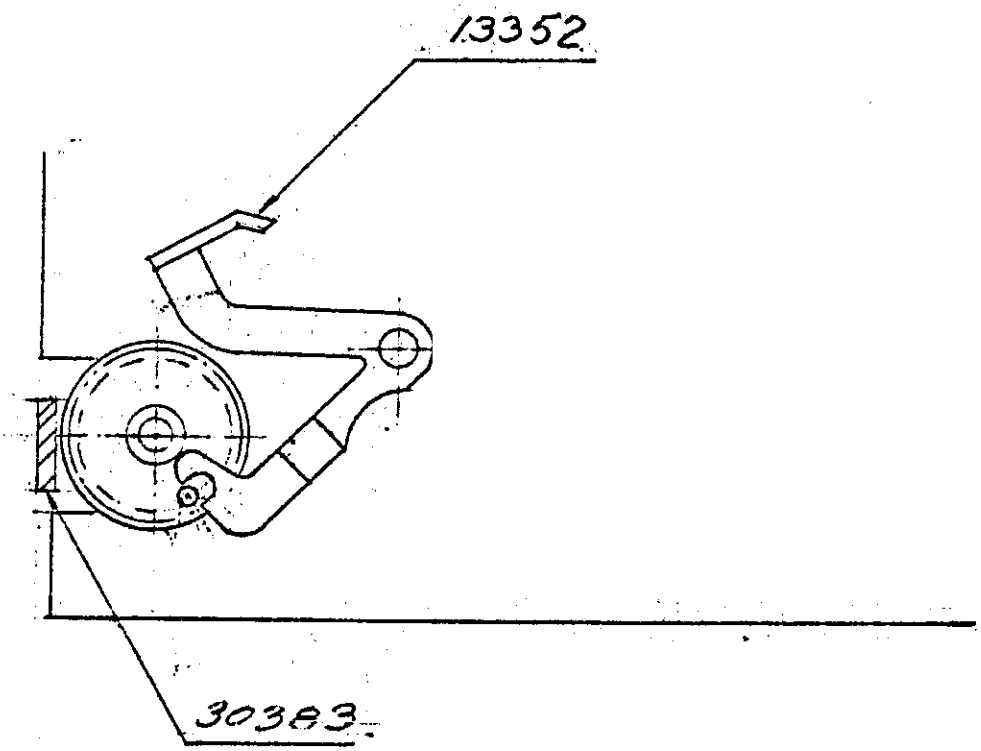
Nase

Rampe

Ant.	Ritn. nr		Ändr. nr	Ändrat från	Dat.
Victor Hasselblad		40180	Typ:		
		Ytbeh.	Ritn.		
Skala:	Ritad	Material:	Nr.	500C/Fig.17	
Dat.	Kontr.				

Tolerans där ej annat angives

Mått	Ex	Avst	Inv. ø	Utv. ø
utan decimal	25	± 0,2	+ 0,2	− 0,2
med en decimal	25,0	± 0,1	+ 0,1	− 0,1
med två decimaler	25,00	± 0,05	+ 0,05	− 0,05



Ant.	Ritn. nr		Ändr. nr	Ändrat från	Dat.
Victor Hasselblad		40180	Typ:		
		Ytbeh.	Ritn.		
Skala:	Ritad	Material:	Nr	500c/fig. 18	
Dat.	Kontr.				

SWC

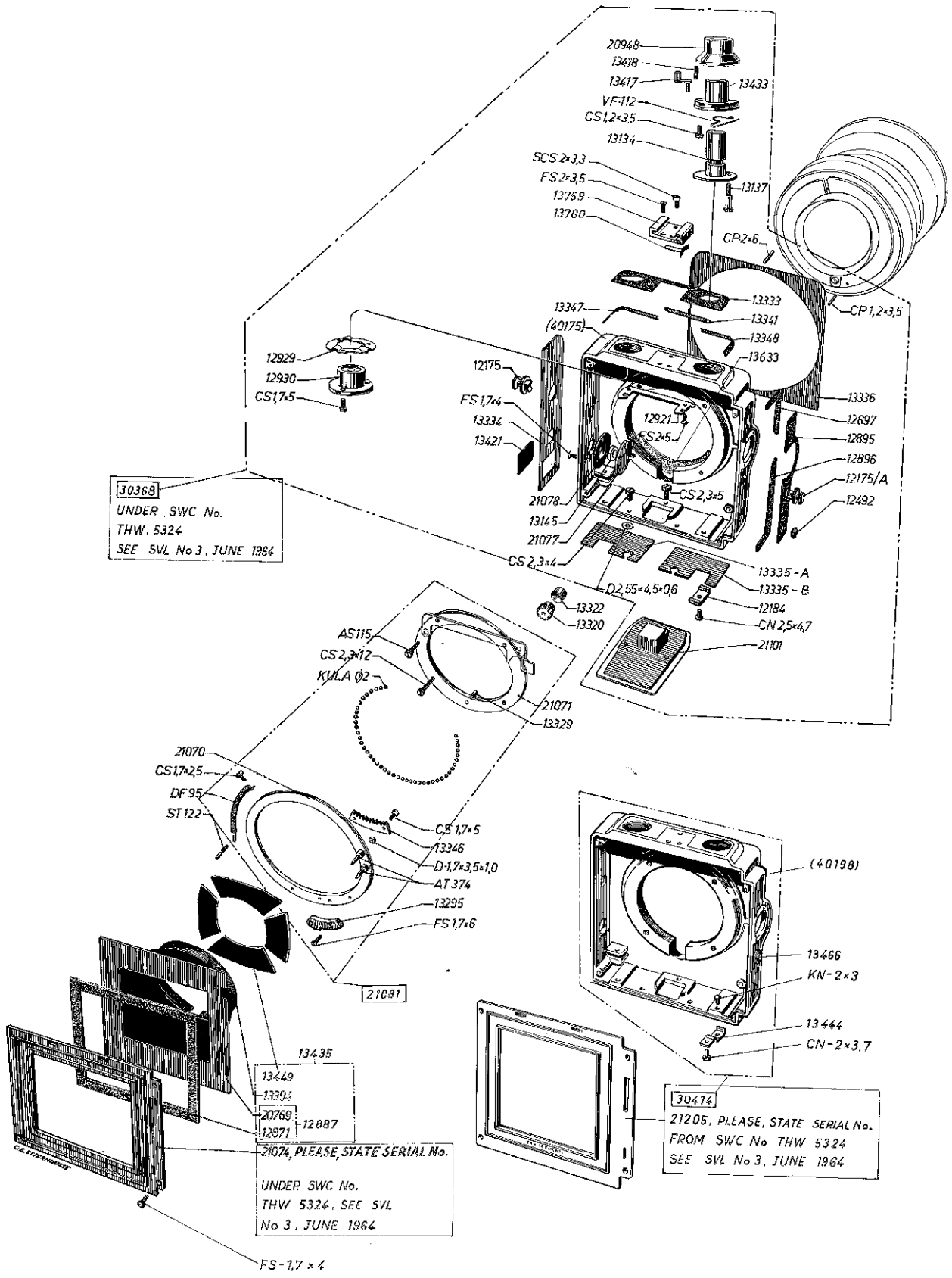
Pcs	Part No.	Description	Price (each)	Next assy.	Remark
1	12175	Strap button		30368	
1	12175/A	Strap button		30368	
2	12184	Magazine support		30368	
1	12492	Window		30368/414	
1	12871	Foam plastic frame		12887	
1	12887	Frame		13435	
1	12895	Leather		30368/414	
1	12896	Leather		30368/414	
1	12897	Leather		30368/414	
1	12921	Magazine hook		30368/414	
1	12929	Washer		30368/414	
1	12930	Level		30368/414	
1	13134	Release button		30368/414	
1	13137	Screw		30368/414	
1	13145	Nylon ring		30368/414	
1	13295	Nylon stop		21081	
1	13320	Gear		30369/415	
1	13322	Guide ring		30369/415	
1	13329	Pin		21071	
1	13333	Leather		30368/414	
1	13334	Leather		30368/414	
1	13335/A	Leather		30368/414	
1	13335/B	Leather		30368/414	
1	13336	Leather		30368/414	
1	13341	Name plate		30368/414	
1	13346	Toothed segment		21081	
1	13347	Leather		30368/414	
1	13348	Leather		30368/414	
1	13394	Light trap		13435	
1	13417	T-arm		30368/414	
1	13418	Plate spring		30368/414	
1	13421	Name plate		30368/414	
1	13433	Bushing		30368/414	
1	13435	Cone, complete		30369/415	
2	13444	Magazine support		30414	
4	13449	Reflection damper		13435	SVL No. 11/61
2	13466	Strap button		30414	
1	13633	Foam plastic strip		30368/414	SVL No. 5/66
1	13759	Shoe		30368/414	SVL No. 3/69
1	13760	Plate spring		30368/414	SVL No. 3/69
1	20769	Frame		12887	
1	20948	Socket		30368/414	
1	21070	Outer ballrace		21081	
1	21071	Inner ballrace		21081	
1	21074	Rear plate	×	GR-21074	SVL No. 3/64
1	GR-21074	Rear plate, engraved		30369	State serial No.
1	21077	Cover		30368/414	
1	21078	Shield		30368/414	
1	21081	Driving ring		30369/415	
1	21101	Tripod socket		30368/414	

× = This part will not be supplied; A = assortment.

▲ = This part should be ordered from the Sales Department.

Pcs	Part No.	Description	Price (each)	Next assy.	Remark
1	21205	Rear plate	×	GR-21205	SVL No. 3/64
1	GR-21205	Rear plate, engraved		30415	State serial No.
1	30368	Shell, complete		30369	SVL No. 3/64
1	30369	Camera body, complete	×	—	
1	30414	Shell, complete		30415	SVL No. 3/64
1	30415	Camera body, complete	×	—	
1	40175	Shell	×	30368	
1	40198	Shell	×	30414	
1	AS-115	Screw		30369/415	
1	AT-374	Pin	×	21070	
100	ϕ 2 mm	Steel ball		21081	
2	CN-2×3,7	Rivet		30414	
2	CN-2,5×4,7	Rivet		30368	
1	CP-1,2×3,5	Cylinder pin		30368/414	
1	CP-2×6	Cylinder pin		30368/414	
1	CS-1,2×3,5	Screw		30368/414	
1	CS-1,7×2,5	Screw		21081	
2	CS-1,7×5	Screw		21081	
3	CS-1,7×5	Screw		30368/414	
2	CS-2,3×4	Screw		30368/414	
1	CS-2,3×5	Screw		30368/414	
3	CS-2,3×12	Screw		30369/415	
2	D-1,7×3,5×1,0	Spacer		21081	
2	D-2,55×4,5×0,6	Washer		30368/414	
1	DF-95	Draw spring		21081	
4	FS-1,7×4	Screw		30369/415	
2	FS-1,7×6	Screw		21081	
2	FS-2×3,5	Screw		30368/414	
2	FS-2×5	Screw		30368/414	
2	KN-2×3	Rivet		30414	
1	SCS-2×3,3	Screw		30368/414	SVL No. 8/71
1	ST-122	Pin		30369/415	
1	VF-112	Torsion spring		30368/414	

Serial number CEW 3001 – forwards



SWC

Pcs	Part No.	Description	Price (each)	Next assy.	Remark
1	12873	Bracket		30367	
1	13096	Handle		21106	
1	13216	Crank		21106	
2	13294	Nylon roller	×	13340	
1	13296	Catch		13337	
1	13332	Release lever, complete		30369/415	
1	13337	Release mechanism		30367	
1	13339	Release lever		13332	
1	13340	Driving ratchet wheel		30367	
1	13343	Driving shaft, complete		30367	
1	13344	Release		13337	
1	13427	Catch		30367	
1	13429	Signal release mechanism		30367	
1	20737	Signal		30367	
1	20744	Cam		13343	
1	20921	Pawl		30361	
1	21055	Bracket		30361	
1	21056	Housing		30369/415	
1	21062	Driving shaft		13343	
1	21075	Gear		13343	
1	21076	Latch plate		13343	
1	21106	Crank, complete		30369/415	
1	21107	Spring		30369/415	
1	21165	Latch		30369/415	
1	30361	Mechanism plate, assy.		30367	
1	30367	Mechanism plate, complete		30369/415	
1	30369	Camera body, complete	×	—	
1	30379	Base		21106	
1	30415	Camera body, complete	×	—	
1	AS-96	Screw		30367	
1	AS-107	Screw		30367	
1	AT-335	Pin		30361	
2	AT-372	Pin	×	13340	
1	CP-0,8×3,5	Cylinder pin		13332	
1	CP-1,2×15,3	Cylinder pin		21106	
4	CS-1,7×3,5	Screw		30415	
1	CS-2,3×15	Screw		30415	
1	D-3,1×4×1,25	Spacer		30361	
1	DF-81	Draw spring		30367	
1	DF-82	Draw spring		13429	
2	FS-1,7×4,5	Screw		13343	SVL No. 29/69
2	KN-1,5×2,3	Rivet		30361	
1	NAV-182	Hub		13332	
1	RY-1,2	Clip		30367	
1	RY-1,5	Clip		13337	
3	S-1×6	Pin		13337/30367	
1	SCS-2,3×4	Screw		21106	
1	SCS-3×5	Screw		30369/415	
1	SSS-2,3×6	Screw		30367	SVL No. 29/69
1	TF-65	Pressure spring		13332	

Printed in Sweden

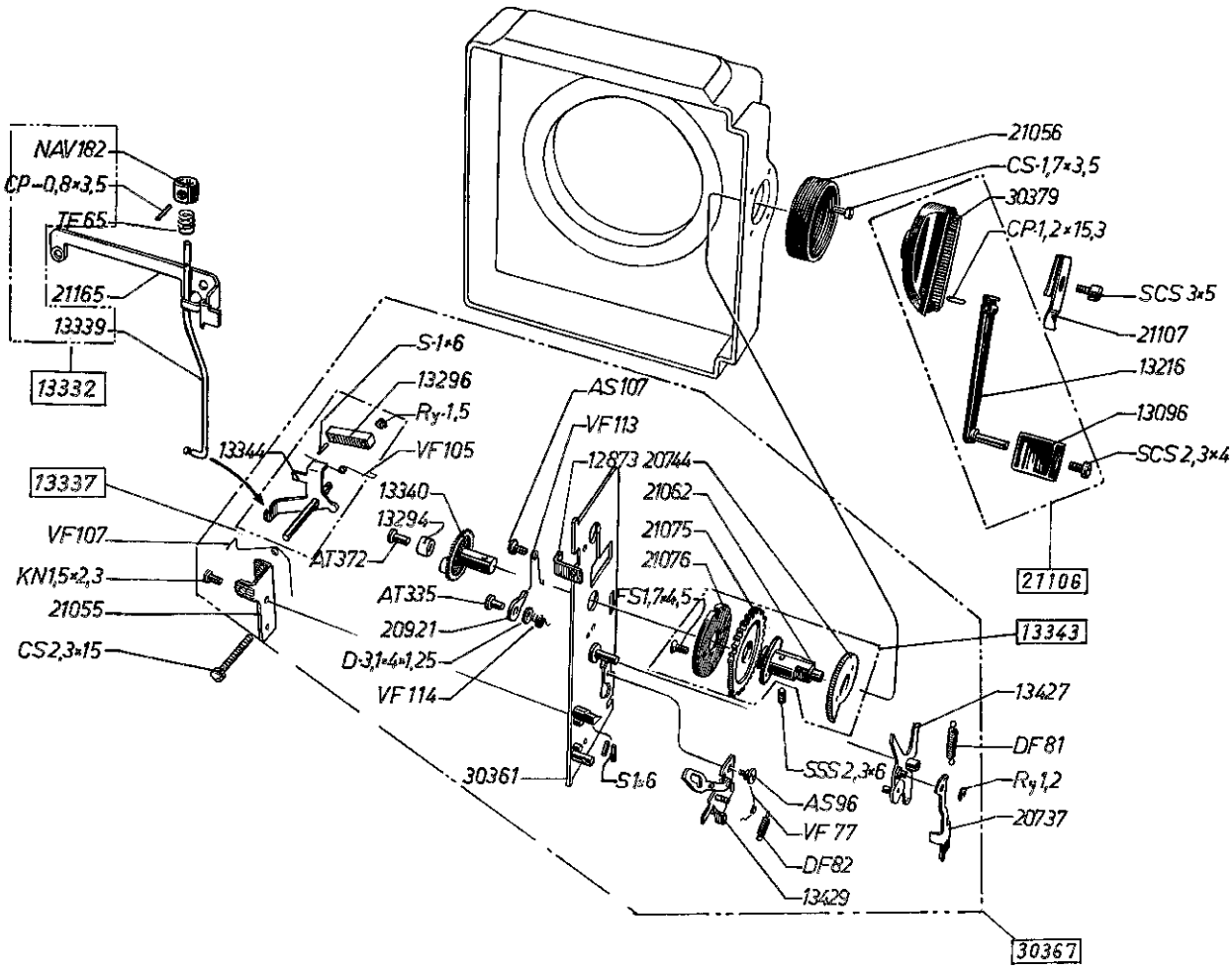
8 71

× = This part will not be supplied; A = assortment.

▲ = This part should be ordered from the Sales Department.

Pcs	Part No.	Description	Price (each)	Next assy.	Remark
1	VF-77	Torsion spring		13429	
1	VF-105	Torsion spring		30367	
1	VF-107	Torsion spring		30367	
1	VF-113	Torsion spring		30367	
1	VF-114	Torsion spring		30361	

Serial number CEW 3001 – forwards



40175
20948
21077
21078
21101
12175/A (2)
12184 (2)
12492
12895
12896
12897
12921
12922
12929
12930
12949
13134
13137
13145
13184
13333
13334
13335
13336
13341
13347
13348
(13417)
(13418)
13421
13433
CN–2,5×4,7 (2)
CP–1,2×3,5
CP–2×6
CS–1,2×3,5
CS–1,7×5 (3)
CS–2,3×4 (2)
CS–2,3×5
D-2,55×4,2×0,6 (2)
FS–1,7×4 (4)
FS–2×3,5 (2)
FS–2×5 (2)
SCS–2×3,3
VF–90
(VF–112)

} 30368

21074

21072
AT–374 (2)
D–1,5×3,2×1 (2)

} 21070

21073
13329

} 21071

13295
13346
CS–1,7×2,5
CS–1,7×5 (2)
D–1,7×3,5×1,0 (2)
DF–95
FS–1,7×6 (2)
X–86–Ø2 (94)

} 21081

13320
13322

20769
12871

} 12887

21065
13395

} 13394

} 13435

AS–115
CS–2,3×10 (3)
FS–1,7×4 (4)
ST–122

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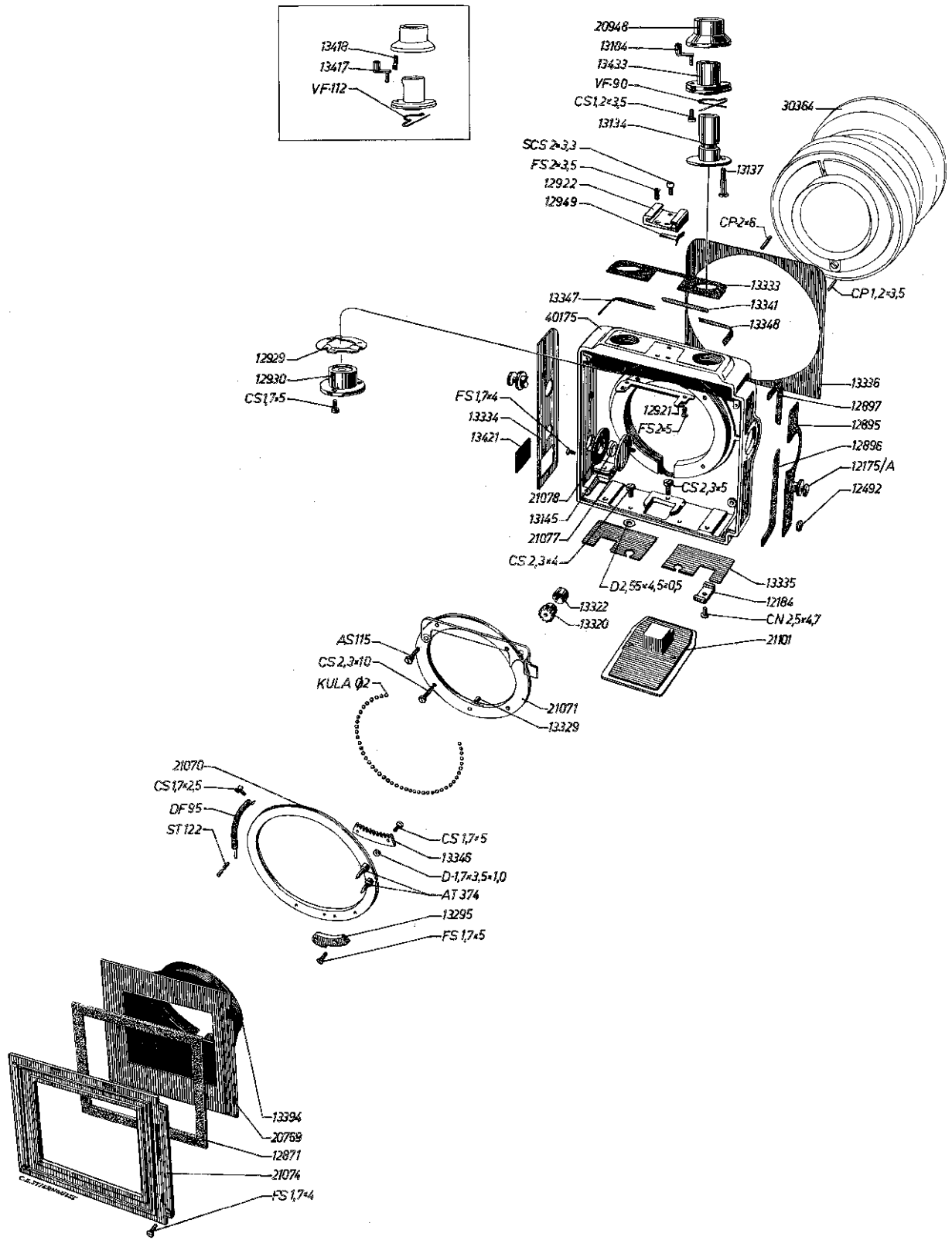

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B039 1.7.60

30357
20921
21055
AT–225 (2)
AT–311
AT–335
AT–375
AT–381
D–3,1×4×1,25
KN–1,5×2,3 (2)
ST–96
VF–114
→ 30361

13296
13344
RY–1,5
S–1×6
→ 13337

21061
13294 (2)
AT–372 (2)
→ 13340

20744
21062
21075
21076
FS–1,7×4,5 (2)
→ 13343

30361 →
20737
12873

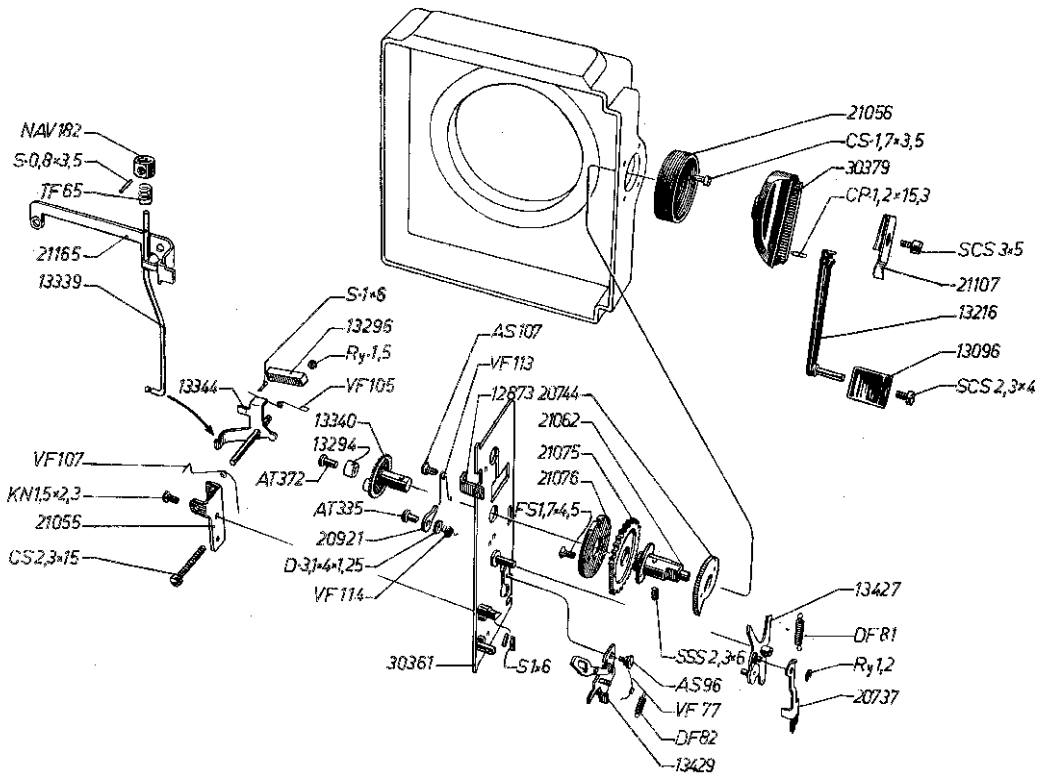
13427
13429
AS–96
AS–107
DF–81
DF–82
RY–1,2
S–1×6 (2)
SSS–2,3×6
VF–77
VF–105
VF–107
VF–113
→ 30367

21056

30379
13096
13216
CP–1,2×15,3
SCS–2,3×4
→ 21106

21107
21165
13339
CS–1,7×3,5 (4)
CS–2,3×15
Nav–182
S–0,8×3,5
SCS–3×5
TF–65

Printed in Sweden



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Dismantling instructions

Loosen the four screws FS-1.7×4 which retain the rear section 21074 and lift out the rear section carefully. Remove the light-proof casing 13435.
Loosen the release rod 13332 by holding it up at the same time as the arm 13344 is pressed downwards whereby the release rod is lifted out of the slot in the arm 13344 and past the spring VF-107. The release rod is then swung to the side so that the "flag" which is welded on disengages from the catch 21165.
Loosen the screw AS-115 which retains the catch 21165 and lift out the catch. Unhook the drive gear spring DF-95 from ST-122. Loosen the three screws CS-2.3×10 and carefully remove the lens from the camera. The drive gear 21081 can now also be lifted out.
Loosen the screw SCS-3×5 retaining the crank 21106 and pull off the crank. Loosen the four screws CS-1.7×3.5 retaining the bearing 21056 and remove the bearing.
Finally loosen the screw CS-2.3×15 which holds the lower edge of the mechanism plate 30367 and lift out the mechanism plate.

Re-assembling and adjusting

Camera casing 30368

The mechanism operating the Super Wide C camera is fitted in a press-cast light-alloy casing. The strap studs 12175/A, the signal window 12492, the bottom tabs 12184, the bearing 13433 for the top-mounted release and the part NAV-183 for the side plate CS-2.3×15 are riveted to the casing. The individual parts are most conveniently fitted to the casing in the following way.
The cable attachment ring 21078 is inserted into the hole for it on the left side of the casing, the nylon ring 13145 and the cover 21077 are then fitted in this order and the three screws FS-1.7×4 are tightened to hold the parts in position.
All the strips of leather are then glued onto the casing, both the leather and the metallic surfaces being covered with adhesive. For this purpose use the type of adhesive known as "Pliobond".
The adjuster washer 12929 is fitted with the three recesses against the inside of the casing on the narrow part of the spirit level 12930. Make sure that the slot in this washer for the locking hook 12921 is the right way round. Both these parts are adjusted through the hole in the casing from its inside and should be **lightly** tightened with three CS-1.7×5.
To adjust the spirit level 12930, use a levelled faceplate with a setsquare attachment. The front of the casing is held flat against the setsquare with its underside against the faceplate. The three screws are then tightened until the "bubble" in the spirit level is centralized. The screws are then secured with shellac.
The friction spring 12949 is placed in the recess on the underside of the view-finder attachment 12922 and the parts are screwed firmly in position on the top of the casing with one SCS-2×3.3 and two FS-2×3.5. Take care to avoid damaging the slots in the screws.
The inner diameter of the bearing 13433 which is riveted in the casing should be smoothed with V-2218 (the same tool used for the Hasselblad 500C) in order to provide a good surface for the release button 13134.
The catch 13417 is fitted in the hole for it and the leaf spring 13418 is fitted in position between 13417 and the milled surface on the hub section of the bearing 13433. The sleeve 20948 is fitted loosely and a check is made to ensure that the catch 13417 snaps distinctly and positively. The spring VF-112 is fitted and one CS-1.2×3.5 is screwed tight so that the spring is locked in position. The release button is inserted from the inside of the casing and the screw 13137 is fitted and tightened.
Check that the release button actually remains at "T" when it is subjected to pressure from below and that it is released when the catch 13417 is returned to the "O" position.
Remember that the bearing recess for the release button and the button itself must never be lubricated under any circumstances.
The locking hook 12921, which secures the magazine on the camera, is screwed on with two FS-2×5 and these should be tightened very hard.
When fitting the bottom plate 21101, lay two washers D-2.55×4.5×0.5, one in each of the recesses in the leather strips 13335 on the bottom. The bottom plate is screwed on with one CS-2.3×5 in the forward hole and two CS-2.3×4 in the two rear holes. All the screws should be tightened very hard since this is difficult to do when the lens has been screwed in position on the camera casing.
Two guide pins are fitted in the front of the camera casing to locate the objective. Cp-1.2×3.5 is driven into the hole at the bottom to the left of the milled recess and CP-2×6 is driven into the hole on the upper part of the front to the right. The length of the projecting part for both pins should be 1.5 mm.
Check that all parts are in position and all screws tightened.

The mechanism plate 30367:

The mechanism operating the camera is fitted on a side plate 30361 which has a bearing bracket 21055 riveted on with two KN-1.5×2.3. The separately riveted pins are two AT-225, one AT-311, one AT-375 and one AT-381.
AT-311 has a hole Ø 1.0 mm drilled in it for the tensioner pin S-1×6. (In the latest model there is only one (1) but in the early model there were two (2) pins S-1×6).
The threaded hole M-1.7 in AT-375 is intended for one FS-1.7×4 when the rear section 21074 is to be tightened in position.
The non-reverse catch 20921 is riveted with one AT-335. This catch must move easily. For this reason, it must not be lubricated with ordinary grease but **cold-resistant** oil must be used. The slotted pin ST-96 which is located diagonally to the left under the non-reverse catch 20921 forms the stop for the spring VF-114.
The mechanism plate 30367 is assembled as follows:
The arm 13344 is fitted together with the catch arm 13296. In this connection check that the pressed-in tensioner pin S-1×6 is level with one side of the catch arm. When the catch arm 13296 is fitted, make sure that the free part of the tensioner pin is upwards. RY-1.5 ensures the fact that the parts are kept together. Check that 13296 can move easily without stiffness. This assembly will be known as number 13337 in the future.
VF-105 is adjusted on the double-bent end so that it exerts a clamping effect throughout the whole material thickness when the release 13337 is fitted. The long, slightly bent, free end of the unit is then placed on the rear side of the tensioner pin S-1×6 so that the spring presses 13296 against 13344. VF-107 is laid over VF-105.
The side plate 30361 is laid so that the mechanic sees it from the bearing bracket side. The oblong slot, 1.10 mm wide, which is directly below the bearing bracket 21055 is carefully lubricated with special grease (Hasselblad Special No. 1). The long shaft on 13337 is lubricated in the same way and the release shaft is inserted in both the holes in the bearing bracket 21055 from its underside. The release 13337 then provides a certain resistance but the use of a **slight amount of force** and the careful help of a pair of pliers can easily make it snap into its correct position. Make sure that the small half-moon shaped part on 13337 runs easily in the earlier lubricated slot with a width of 1.10 mm.
VF-107 is tensioned and the long free end of the spring is fitted in the underside of the bearing bracket 21055 so that, after adjusting by bending, the end rests in the joint between the bearing bracket and the side plate.
Now check that the release 13337 operates without chafing.
The side plate 30361 is now turned so that the bearing bracket faces **away from** the mechanic:
The flange and the signal release 13429 for the magazine signal are then lubricated at three different points. Viewed from the side where the two arms are riveted, lubrication should be carried out on the surface which is in contact

with the side plate, on the sides of the irregular recesses on the narrow arm and on the right-hand edge of the narrow arm (i. e. the edge where the milled pin AT-308 on the catch 13427 is to work).
Locate 13429 so that the narrow end of the **thick** arm fits in between both the AT-225 and **below** the lower pin S-1×6 which is driven into AT-311. 13429 is then screwed tightly in position with AS-96. Check now that 13429 can operate without chafing.
The most convenient way to do this is to clear the mechanism by using the release arm 13337. In this connection it is seen that the movement from 13337 is transferred to 13429 by the small half-moon shaped section on 13337 engaging in the recess on the release 13429. After checking this, fit VF-77.
The gear 13340 is fitted with two riveted but freely rotating nylon rollers. The drive shaft 13343 is made up of the cam 20744, the drive shaft 21062, the gear 21075, the catch plate 21076 and two FS-1.7×4.5.
The fitting of the drive shaft 13343, as seen from the catch plate side 21076 is carried out as follows:
The highest part of the cam 20744 should be fitted parallel with the surface of the gear 21075 and with the point to the right. The recess in the catch plate 21076 should be located so that it is to the left and contacts tooth recess no. 7 on the gear 21075.
The drive shaft 21062 should have the **threaded** section for SSS-2.3×6 turned **downwards.**
Before both the units, the gear 13340 and the drive shaft 13343 are fitted on the side plate, the bearing hole for them should be lubricated. The drive shaft 13343 is lubricated at three different points. First on the shoulder of the hub towards the gear and then in the small milled recess on the catch plate 21076. Finally along the whole edge of the cam 20744.
The gear 13340 is fitted on the side plate 30361 from the bearing bracket side and the drive shaft 13343 is fitted in from the opposite side. Make sure that the milled surface on the side of the gear 21075 is upwards and parallel with the edge of the side plate at the same time as the two nylon rollers 13294 on the gear 13340 are on the **upper half** of the gear. The screw SSS-2.3×6 is now tightened **hard** so that it bottoms in 21062. Lock the screw with shellac.
Hook on the spring VF-114 which presses the non-reverse catch 20921 against the gear 13340. Check that the assembled parts move easily and that the non-reverse catch operates positively.
Attachment of the spring VF-113 is facilitated if it is first attached to AS-107. The attaching plate 12873 is tightened with AS-107.
The signal spring DF-81 is hooked into the smallest hole in the attaching plate 12873.
The catch 13427 is located so that the side with two pins is against the side plate bearing pin. Lubricate the bearing pin before fitting. Check that the pin which is riveted in the circular recess fits into the irregular recess on the narrow part of the arm 13429.
Fit the signal 20737 on the pin with a catch on the top of the catch 13427. The signal should then be secured with an RY-1.2.
Hook the signal spring DF-81 in the hole on the slightly curved part of the signal 20737.

Drive gear 21081:

The cocking mechanism for the lens shutter is the drive gear 21081 which is, in its turn, influenced by the film transport crank 21106 through the mechanism plate 30367 described above.
The drive gear, which is fitted with an outer 21070 and an inner bearing ring 21071, contains 93 steel balls with Ø = 2 mm, (the earlier model ball bearing rings contained 94 steel balls and can be used with this number). There is also a nylon lug 13295 and a quadrant 13346 fitted on the outer ring. The **periphery** of the inner ring 21071 is lathe-turned **after** the pin 13339 is riveted in order to ensure that both the fit and the surface are perfect so that the balls rotate easily.
The inner diameter of the outer ring 21070 is also lathe-turned after the two pins A-3374 are riveted in order to ensure that both the fit and surface are perfect so that the balls rotate easily.
The outer diameter of the inner ring 21071 and the inner diameter of the outer ring have also each a half-moon shaped recess, radius 1 through which the balls are inserted.
When fitting the 93 steel balls, place the inner ring 21071 with the riveted pin 13339 downwards in the inner diameter of the outer ring 21070. Both the semi-circular recesses should be opposite each other so that the semicircles form a diameter of Ø 2 mm. Insert the balls and then displace the outer ring 21070 180° relative to the inner ring. Since the semi-circular recesses are no longer opposite each other, the balls cannot fall out.
The drive gear (ball bearing) is checked to ensure that it rotates very easily. No chafing may be permitted.
The nylon lug 13295 is screwed into position with two FS-1.7×5 (in the earlier model two FS-1.7×6) on the same side as the two pointed pins AT-374. The drive gear is turned completely round and two washers D-1.75×3.5×1.0 are placed over the two holes M-1.7 under the quadrant 13346 which has 16 teeth, (the first Super Wide units made, however, had a quadrant with only 14 teeth. This earlier model of quadrant can, however, be used perfectly well if care is taken to follow the instructions about fitting the lens on the camera. See "Assembling the Super Wide C camera", point 4). The quadrant is held in position by means of two screws CS-1.7×5.
The gear 13320 is placed on the pin on the inner ring 13329 in order to check engagement between the drive gear and the other gear. Keep play between the gears to a minimum but without chafing occurring. After this has been checked, lock both the screws with shellac.
DF-95 is attached to its small hook on the edge of the outer ring 21070 by using one CS-1.7×2.5.

Assembling the Super Wide C camera

1. The mechanism plate 30367 is tensioned and traces of shellac removed from the hub section of the drive shaft 21062. Place the mechanism on the right side in both the slots in the casing and knock it lightly into position so that it does not stick over the cast surface for the rear section 21074. The screw CS-2.3×15 is attached through the mechanism plate bearing bracket 21055 and down into NAV-183 in the casing. This screw should be tightened very carefully to avoid deforming the bearing bracket. If the screw is tightened too hard, it will stick out through the front of the casing and form an unsightly "bubble" under the leather.
   Lubricate the drive shaft 21062 well and attach the bearing housing 21056 by means of four CS-1.7×3.5. The crank 21106 and the spring 21107 should be **lightly** attached by means of the screw SCS-3×5.
2. The loose spacer ring 13322 should be fitted on the hub on the gear 13320. Fit the gear with its flange on the lens coupling so that a **tooth recess** points downwards to the right of the considered vertical centre line when the lens coupling is turned anti-clockwise against the stop. This location of a tooth recess is the **normal** location of the gear (Compare, however, point 5).
   If one of the **tooth crowns** points downwards to the right of the considered centre line, turn the gear through 180°.
3. The quadrant 13346 and the pin 13329 on the drive gear are lubricated and the drive gear is placed in the casing so that the gear bearing pin 13329 comes into the recess for it in the front of the casing. Fit two CS-2.3×10 screws loosely for the time being in their holes to prevent the drive gear from becoming displaced when the lens is fitted.

4. Before being fitted, the lens should be set at "B"; the synchronising at "M" and the aperture at 4.5. When fitting the lens, follow the procedure below:
   Hold the drive gear 21081 in the camera casing in such a way that the second tooth crown* (see note below), counted from the left end of the quadrant, is so far to the right that it fits into the tooth recess on the gear 13320 which has been, in its turn, turned to the right of the considered vertical centre line when the lens fits into both the guide pins CP-2×6 and CP-1.2×3.5 in the front of the camera casing.
   *(concerns quadrant 13346 with **16** teeth. In the case of quadrants with only **14** teeth, the first tooth, i. e. the outer tooth counting from the left, should fit in a corresponding way.)
   Now tighten the lens in position by means of the two screws CS-2.3×10 which were earlier fitted loosely and a third screw.
   In order to check that there is no chafing between the ring gear 21081 and the lens, cock the camera carefully by using the crank. Then brake the drive gear with one finger and release the mechanism with 13337. Now release the drive gear slowly whereby the lens should bottom with the help of **its own** spring tension.
   If it does not do this, there is a centring fault between the lens coupling and the gear 13320. In this case, loosen the three screws CS-2.3×10 and try to move the drive gear until it runs as smoothly as possible.

5. Check that the lens cocks correctly in the following way:
   Cock the camera slowly by using the crank while the non-reverse catch is held out of action with a matchstick or something similar. Just before the drive gear 21081 has reached its highest position there will be a click (just audible) in the lens which shows that the lens has been cocked. With continued cranking past this position, the drive gear should move a further 0.4 mm measured on the periphery of the drive gear in order to provide a sufficiently large margin for cocking.
   If the cocking point is too early or too late, the engagement between the gear 13320 and the quadrant 13346 on the drive gear must be altered. A displacement of half (½) a gear tooth can be obtained by turning the gear 13320 through 180° (if this modification is carried out, there will be a tooth crown diagonally downwards to the right instead of at tooth recess).
   Check the cocking position through repeated testing. Check again that the lens bottoms under **its own** spring tension. (Compare with point 4).

6. The following applies when checking the "B" position: Cock the mechanism with the crank. Then release the mechanism with the release button 13337 and keep this depressed. Brake the drive gear 21081 with a finger and release the gear slowly until the nylon lug 13295 on the drive gear is stopped by the release 13337. The release should be depressed so far that engagement between this and the nylon stop 13295 is about 2/3 of the width of the nylon lug. The shutter, which is still set at "B", should now have opened.
   If the shutter does **not** open in this position, in spite of the fact that the cocking point of the lens is correctly adjusted as described in point 5, the nylon lug 13295 can be shortened in extreme cases by using a sharp knife, for example. Cut off a thin slice from the surface which contacts the arm 13337 on the release 13344. **Under no circumstances whatsoever** may so much material be removed from the nylon lug 13295 that the catch arm 13296 on the release 13337 can fall in against the check surface cut out on the nylon lug so that the drive gear passes its highest position when being cranked forwards.
7. Tension DF-95 on the drive gear and hook on ST-122. Lubricate the part of the spring which slides along the periphery of the drive gear to avoid vibration noise.
8. Screw the crank 21106 and the spring 21107 in position by means of SCS-3×5. (If the axial clearance in the crank is too large then a spring washer 13384, not shown in the exploded drawings, should be fitted under the crank. Remember, however, that under no circumstances may this washer cause the crank to operate stiffly).
9. Screw the catch 21165 to the drive gear by using AS-115. This part should be lubricated first at the following points: on the attachment bearing surfaces, on the edge of the radius recess and on both sides of the part which slides in the slot in the mechanism plate. Check that the catch operates easily.
10. Check that the release rod 13332 (this number is not shown on the exploded drawings) which is made up of a rod 13339 with a "flag" welded on and a spring TF-65 at its upper end which is, in its turn, retained in position by NAV 182 secured with an S-0.8×3.5. The release rod is fitted by inserting its upper end in the hole in the release button 13134 at the same time as the "flag" is fitted in the groove in the catch 21165. The groove should be lubricated first.
    The release 13337 should then be depressed (the camera should be cocked) so that the lower, slotted end of the release rod can fit into the recess for it on the release 13337. Hold the hook on VF-107 out of the way so that it does not become deformed.
    When the hook on VF-107 has been replaced in position, it should prevent the release rod from jumping out of engagement during exposure.
    The spring VF-113 on the mechanism plate is tensioned with one of its ends on the underside of the "flag" so that it functions as a release rod lifter.
11. **Final adjustment of the camera:**
    a) Screw tool V-2354 (the same tool as sued for the Hasselblad 500C) into the release button 13134. Screw the micrometer screw slowly inwards until the catch 13296 on the release 13337 moves 1/3 of its engagement with the nylon lug 13295.
       The signal 20737, which remains uncocked, should be released in this case by the bent-up lug on the flange 13429.
       The signal 20737 and the catch 13429 are now influenced by DF-81 so that the flange pin on the catch 13427 takes the flange further and, through the arm 13344 on the release 13337, disposes of the remaining 2/3 of the catch engagement with the nylon lug 13295. Adjustment of the exposure position is carried out by lifting up the signal 20737 and bending the lower lug on it **inwards** for **later** exposure and outwards for earlier exposure. If sufficiently late exposure cannot be obtained by bending the lug on the signal 20737, i. e. if engagement with the nylon lug 13295 is not sufficient, this engagement can be increased by filing out the contact edge on the arm 13344 for the pin S-1×6 in the catch 13296.
       After the signal 20737 has released, it should be possible to screw in the release rod 13332 a further 0.3—0.4 mm with the help of the micrometer screw. This measurement can be adjusted by bending the "flag" on the release rod.
    b) Check that the shutter closes at the "B" setting, even if the catch 21165 is kept locked by means of **hard** pressure from the front or the back on the transport crank 21106. If the catch 21165 stops the drive gear 21081 so early that the shutter does not close when the release button 13134 is released (the crank still being subjected to pressure from the front or the back) a recess must be filed out in 21165 for the drive gear check pin AT-374. Keep this recess as small as possible so that the drive gear is sure to influence the catch 21165. Other-

wise the next transport movement will be prevented. Make sure that the contact surfaces are polished again.

c) Release the camera mechanism, and then turn the crank so far that the catch 21165 cannot return to its locked position. Then press the release button 13134 **hard** so that it bottoms and continue to turn the crank until exposure has occurred. The camera should not block by the arm on the flange 13429 staying out.

d) Check that the "flag" on the release rod 13332 has a minimum engagement of 0.4 mm in the groove in 21165.

e) Check that when in the "T" position, the "T" catch blocks the release button 13134 before exposure occurs.

f) Fit the light-proof casing 13435 with the recess on the rounded section over the gear 13320. Fit the rear section 21074 in the camera casing and screw it into position with four screws FS-1.7×4 (in order to get the rear section to lie level with the edge of the camera casing, it may sometimes be necessary to fit a washer D-1.75×3.5×A (0.10; 0.20; 0.30) under each of the FS-1.7×4 screws).
Note. When fitting the rear section, take care to see that there is no stress between the narrow edge of the material at the rectangular hole for the locking hook 12921.
In the case of a **new** rear section being fitted, adjustment must be carried out by filing the rectangular holes for the locking hook 12921, the hole for the signal arm on the flange 13429 and the outer contours of the rear section.

g) Check that the arm on the flange 13429 (the signal device for the magazine) goes at least 2 mm outside the rear section before exposure occurs. This ensures positive blocking on the 13th. picture.

h) Check, with the magazine fitted on the camera, that the arm on the flange 13429 releases the magazine signal when exposure is carried out.

i) Test the camera and check that everything functions well when the magazine is fitted.

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Dismantling Instructions

(Applicable to all cameras with serial numbers above RH 1271268.

Camera Shell

Remove lens, film magazine, view finder and focusing screen.

Remove the film winding knob (note this is a bayonet fitment).

Using tool V-2207, remove bayonet fitment (13163) and shim (13360). Retain screw SCS-3 x 5.5 and lock washer (13436) (Fig. 1).

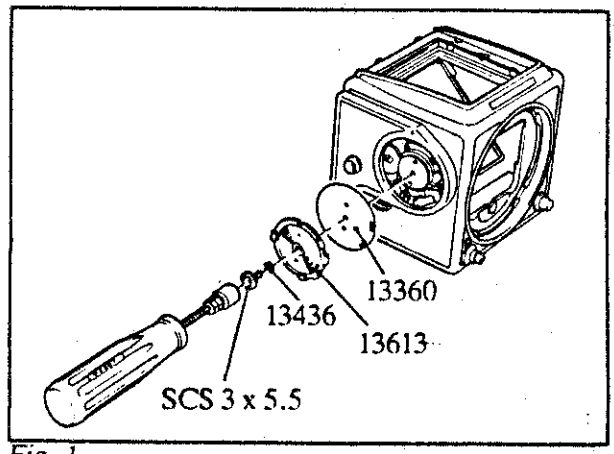

Fig. 1

Remove slide (103349) by removing four screws (823735). Remove the tripod support (103342) by removing four screws (823735). Remove two screws (823781). Note on removal of these screws the distance washers (810617) are loose inside the camera shell and therefore, the camera should be retained in its normal position and not turned upside down. Remove both the rear screws (824701) (Fig. 2).

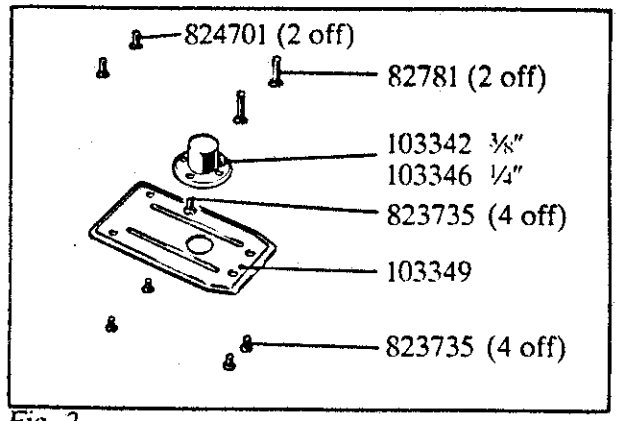

Fig. 2

The camera body can now be separated from the camera shell. Ensure that the lens release button (13139), the teflon cone (13140) or the distance washers (810617) do not become dislodged from the camera shell (Fig. 3).

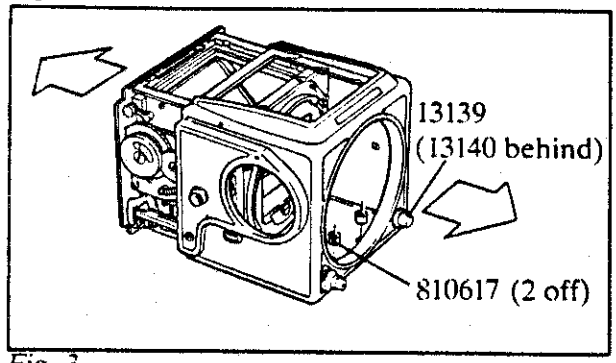

Fig. 3

Operate the S-release on the camera by pressing the S-arm (21167) towards the stop (Fig. 4). Remove the two internal covers, side cover (21148) and drive spring cover (22341). These are held in position by one screw SCS-1, 7x2,2 (821031) on each. Use a short screwdriver V-2245 to release the side cover screw. Remove release arm (30375) by gently lifting with a screwdriver (see Fig. 5) so that it is freed from the front gear wheel and can be removed by easing the release arm forward (Fig. 5).

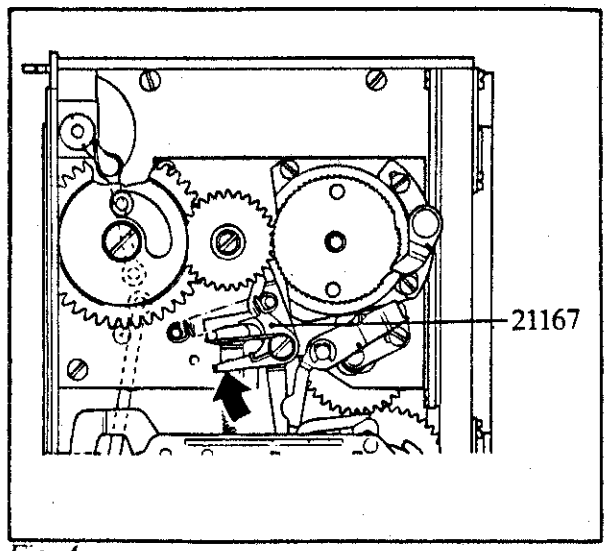

Fig. 4

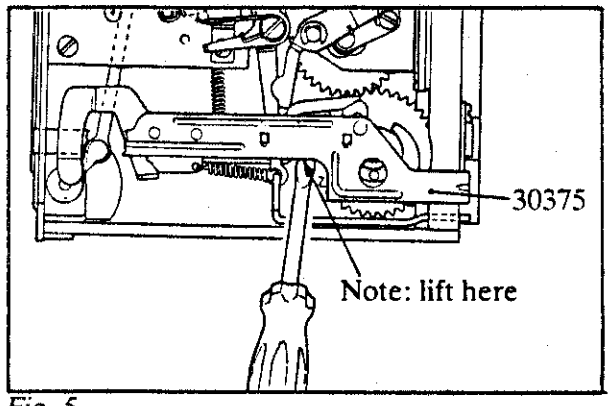

Fig. 5

Front bayonet plate (30376-2)

Remove the front bayonet plate (30376-2) by removing eight screws, two CS-1,7x3,5 (820015) in each of the right and left sides, two screws in the view finder screen frame SCS-1,7x3,5 (821017) and two screws in the bottom plate (823655). Carefully draw the front plate forward (Fig. 6), note that the drive spring should be held when the gear wheel is released to prevent damage to the drive spring by releasing the tension too quickly.

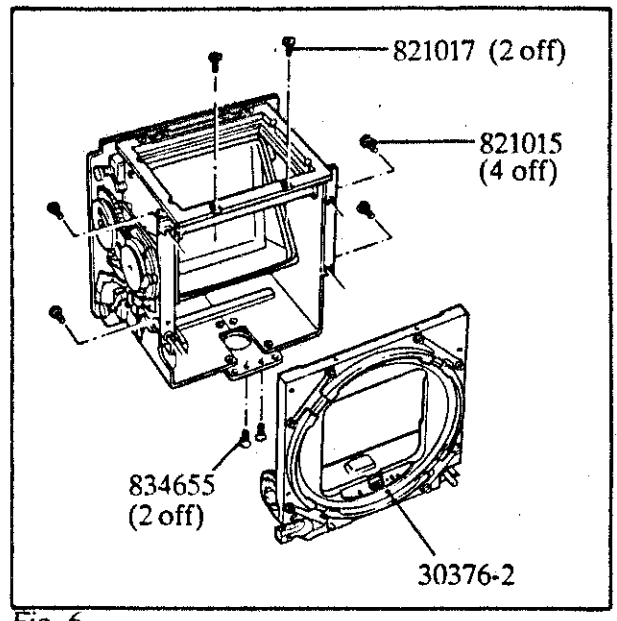

Fig. 6

Rear plate (30519) *(including auxiliary shutters and mirror)*

Remove eight screws (two No. SCS-1,7x3,5 (821017) and six No. CS-1,7x3,5 (820015)) then partly withdraw the rear plate. When partly removed, disconnect both the upper and lower connecting rods to enable the shutter and therefore the rear plate to be removed completely (Fig. 7).

View finder screen frame

Remove four screws CS-1,7x3,5 (821017) which hold the view finder screen frame to the right and left walls. Lift off the view finder screen frame.

Right hand wall (21095)

Remove the right hand wall of the camera from the bottom place by removing three screws CS-1,7x3 (820014).

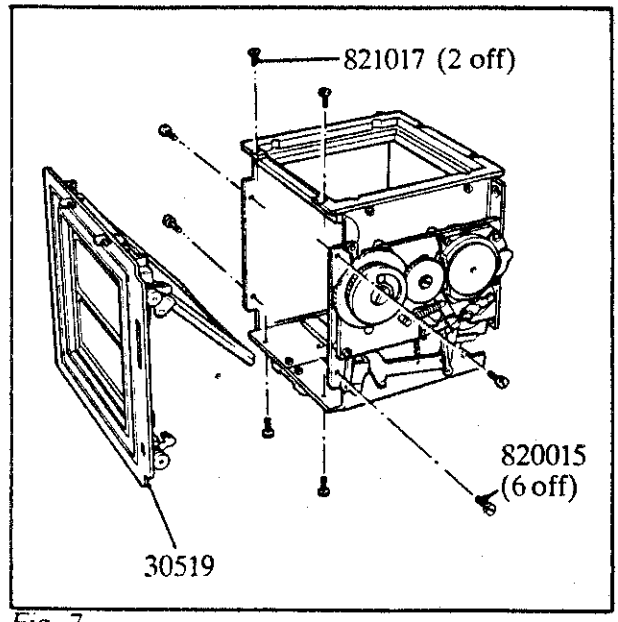

Fig. 7

Mechanism plate *(21125-1)*

Dismantling

Remove the pendulum weight (22287) by removing screw AS-118 (822605) and washer D-4,5x7x0,07 (810836). Remove the pendulum weight. Remove washer (14280) and spring (20968-1). Lift off gear wheel (13359-1) and washer D-7,1x15x0,4. Remove screw SCS-2x4 (821631), gear wheel (13112) and washer D-2x5,5x0,30 (810532). Beneath the gear wheel remove washer D-4,5x7xA (810826) (Fig. 8).

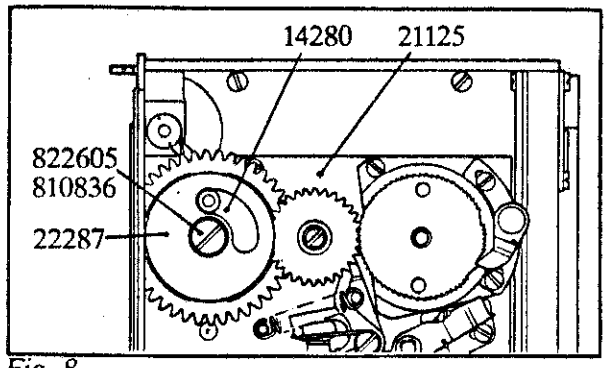

Fig. 8

Remove the mirror actuating lever (13362) from the rear of the right hand side wall together with spring VF-86 (816902) and the lens lock (13280) (Fig. 9).

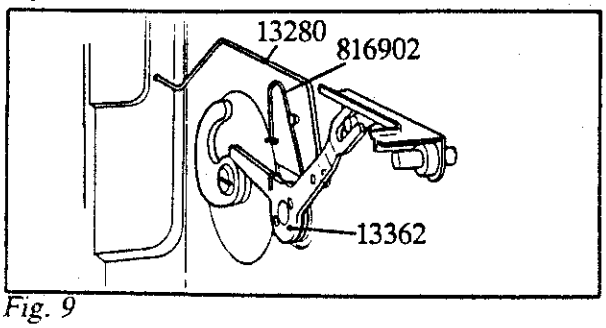

Fig. 9

Remove the mechanism plate from the right hand side wall by removing the six screws shown shaded in Fig. 10.

Carefully remove the stop angle (13432) and adjustable pawl (13170). NOTE: The following illustrations and text associated with Fig. 11 to Fig. 16 give step by step detail on the dismantling of the camera.

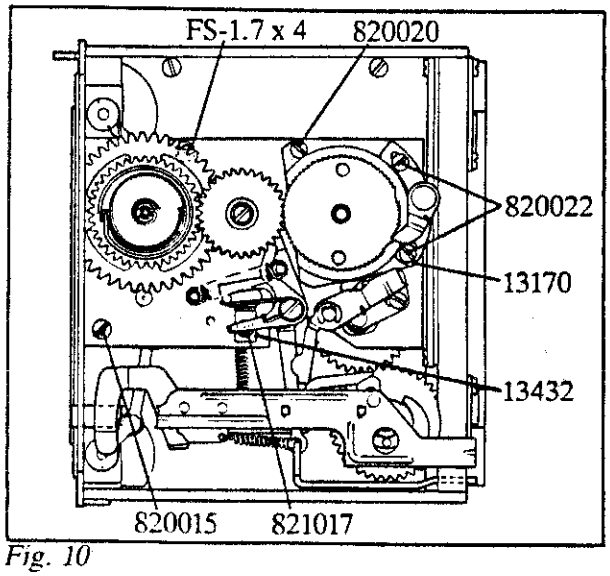

Fig. 10

Mechanism plate *(21125-1)*

1. Lower connecting rod (13101) (shutter)
2. Upper connecting rod (13100) (shutter)
3. Push rod (22369)
4. Spring DF-99 (814826)
5. Screw 1,7x2,5 (821032)
6. Spring VF-108
7. S-arm (21167)
8. NAV-180
9. Release arm (13357)
10. Circlip 1,9 (817119)
11. Stop lever (13355)
12. Spring VF-89
13. Screw 1,7x4 (820016) (Qty. 2)
14. Gear wheel (13167)
15. Bearing bracket (13167)
16. Nut (13116)

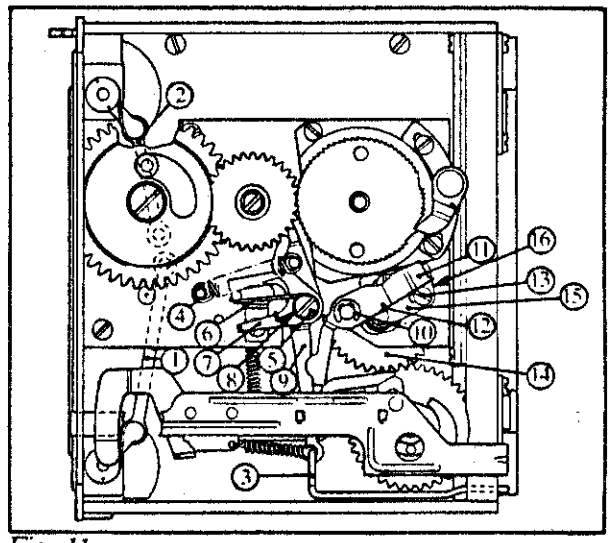

Fig. 11

On later models of the 500 C/M the mirror spring VF-86 (816902) has been replaced and the design changed to include a more powerful spring.

The new spring is positioned on the right wall of the camera and secured as shown in Fig. 11a and 11b. One end of the spring is secured onto the right wall, the other end of the spring is attached to the new extended arm of the auxiliary shutter stop.

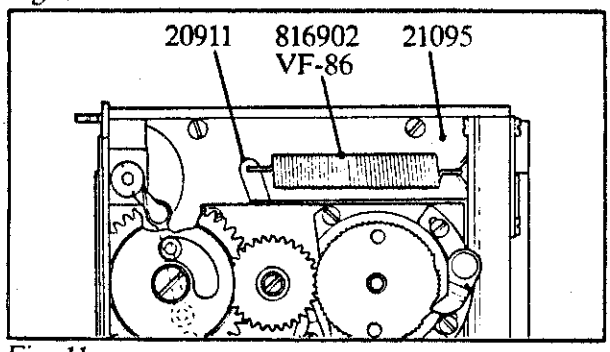

Fig. 11a

The following parts are affected:

Parts removed

Right wall (21095)
Spring (816902) VF-86
Auxiliary shutter stop (20911)

Parts replaced or included

Right wall (21095)
Auxiliary shutter stop (22436)
Spring (814827)

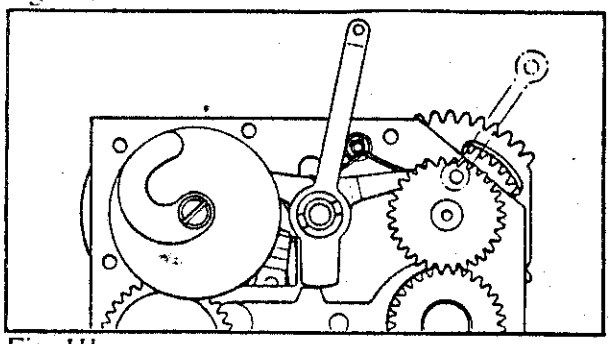

Fig. 11b

The modification does not affect the operation of the camera and is described in detail in Service letter 9/1985. Fig. 11a and 11b show the details of the modification.

Mechanism Plate (21125) (Reverse Sect) (Fig. 12)

17. Auxiliary shutter stop (20911)
18. Screw 1.7x3.2 (821033)
19. Mirror cam (22355)
20. Part of gear housing (30324)
21. Circlip 1.2 (817112) washer D-1.75x3.5x0.30 (810404) and VF-85 (816802)
22. Shutter bar (20912) and gear wheel (13509)

Gear housing cover (30304) (Fig. 13)

1. Disconnect spring VF-83 (816504).
2. Remove locking pawl (20919).
3. Lock ring D-8x8.5x2.2.
4. Washer D-4.5x7x0.10 (810826).
5. Locking pin CP-1x7.8 (812106).
6. Gear wheel (13169).
7. Rachet wheel (20924).

Right wall (21095) (Fig. 14)

8. Circlip 1.5 (817115).
9. Cover (21142).
10. Spring (816706).
11. Mirror catch lever (13356-1).
12. Circlip 1.9 (817119).
13. Signal arm (13220).
14. Spring DF-90 (814603).

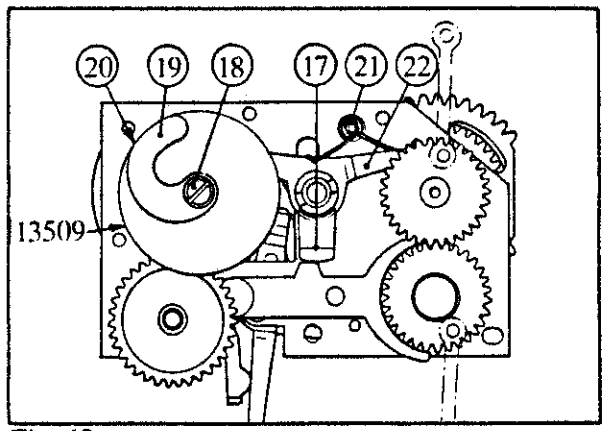

Fig. 12

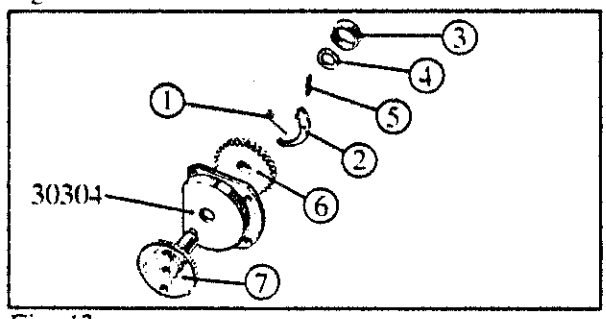

Fig. 13

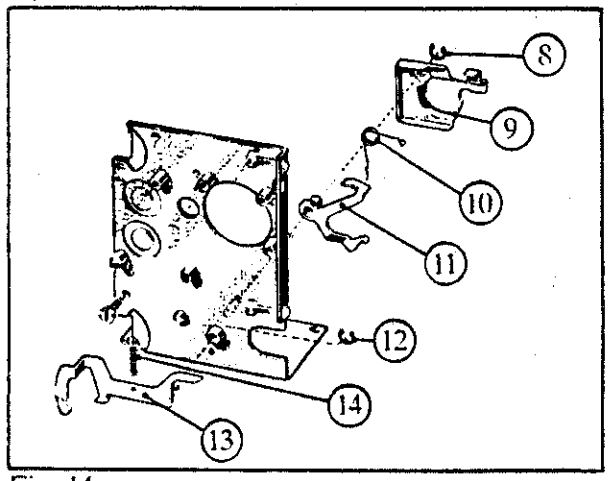

Fig. 14